KORG

E 1

ENGLISH
OS Ver. 1.0

Advanced Edit

Table of Contents

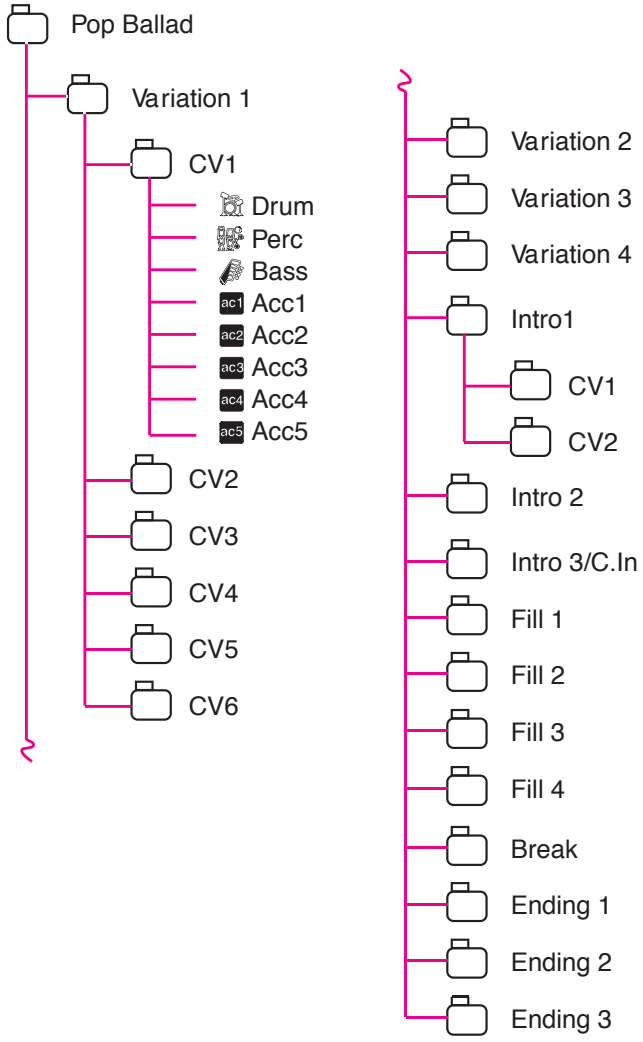
Style Record mode

By entering the Style Record mode, you can create your own Styles, or edit an existing Style.

The Style structure

The term "Style" relates with music sequences automatically played by the arranger of the Pa3X. A Style consists of a pre-defined number of **Style Elements (E)** (Pa3X features fifteen different Style Elements: Variation 1-4, Intro 1-3, Fill 1-4, Break, Ending 1-3). When playing, these Style Elements can be selected directly from the control panel, using the corresponding buttons.

To explain the Style structure, we can use a tree-structure, as shown in the following diagram:



Each Style Element is made up of smaller units, called **Chord Variations (CV),** but not all of them have the same number of CVs. Variations 1-4 have up to 6 CVs each, while the other Style Elements have only up to 2 CVs.

When you play on the chord recognition area (Lower, Upper or Full, depending on the Chord Scanning section on the control panel), the arranger scans the keyboard and determines which chord you are playing. Then, depending on the selected Style Element, it determines which Chord Variation (CV) should be played for the scanned chord. Which Chord Variation corresponds to each scanned chord is a setting of the Style: the **Chord Variation Table**. Each Style Element contains a Chord Variation Table, whose prototype is the following:

Chord	Chord Variations (CVs)	
	Variation 1-4	Intro 1-3, Fill 1-4, Break, Ending 1-3
Maj	CV1 – CV6	CV1 – CV2
6		
M7		
M7b5		
Sus4		
Sus2		
M7sus4		
min		
m6		
m7		
m7b5		
mM7		
7		
7b5		
7sus4		
dim		
dimM7		
aug		
aug7		
augM7		
no 3rd		
no 3rd, no 5th		
b5		
dim7		

After deciding what CV to play, the arranger triggers the right sequence for each track. Since each sequence is written in a particular key (for example, CMajor, GMajor or Emin), the arranger transposes it according to the scanned chord. Notes in the sequence are carefully transposed, to make them work fine with all recognized chords.

Going deeper into the Style structure, we can see that each Chord Variation is made up of **Track Sequences,** and the Pa3X supports 8 different tracks. DRUM and PERC are used for drum and percussion sequences, BASS for bass and ACC1-5 are for accompaniment sequences (string, guitar, piano or other accompaniment instruments).

Just to summarize, when you play a chord on the chord recognition area, the arranger determines which Style Element is used, then determines which Chord Variation should be used for the played chord, then Style sequences for every track of that Chord Variation are transposed from the original chord to the recognized chord, and so on every time you play a chord.

Ordinary, Guitar and Drum tracks

There are different types of tracks (see "Track Type" on page 27), and each of them is treated in a different way by the arranger;

- Acc (Accompaniment) and Bass tracks: When a chord is recognized, the programmed chord notes are transposed to a suitable scale, according to the **Note Transposition Tables (NTT)** The NTT allows you to record just some Chord Variations, and have all the notes play in the right place, avoiding dissonances and transposing the pattern notes to the notes of the recognized chord.
- Drum & and Perc (Percussion) tracks: No transposition is applied.The original pattern plays always.
- Gtr (Guitar) tracks: When a chord is recognized, the arranger triggers single notes, strumming and arpeggios on a "virtual guitar", keeping care of the way notes are played on the guitar keyboard. Note that inside a Guitar track you can also have some parts typical of an Acc track - a useful addition for short "free-form" passages.

What to record

Recording a Style is a matter of recording tracks, inside a series of Chord Variations, inside a series of Style Elements, inside the Style itself.

You don't need to record all Chord Variations for all Style Elements. It is often only needed to record just a Chord Variation for each Style Element. Exceptions are the Intro 1 and Ending 1, where we suggest to record both a Major and minor Chord Variations.

Pattern data vs. track data

While the Style Record mode is where you can create or edit music patterns for the Style, track parameters (like Volume, Pan, Octave Transpose, FX settings…) have to be edited in Style Play mode.

- After creating or editing music patterns in Style Record mode, save them by selecting the Write Style command from the page menu of the Style Record mode (see "Write Style dialog box" on page 31 of the User's Manual).
- After editing track parameters in Style Play mode, save them to the Style Settings by selecting the "Write Current Style Settings" command from the page menu of the Style Play mode (see "Write Style Settings dialog box" on page 139 of the User's Manual).

Sounds

There are two ways of assigning Sounds to the Style tracks.

- While in Style Record mode you can assign different Sounds to each Style Element (see "Sounds area" on page 9 of the User's Manual).
- While in Style Play mode, you can assign a single Sound to the Style Settings (together with the other track parameters), that remains the same for all Style Elements.

Which Sounds are used depends on the status of the "Original Style Sounds" parameter (see page 114 of the User's Manual).

Note: *When assigning a Sound in Style Play mode, the "Original Style Sounds" is automatically turned off.*

Style/Pad Import/Export

As an alternative to creating Styles on the Pa3X, you can import a Standard MIDI Files (SMF) from your computer to a Pa3X's Style. See "Import: Import SMF" on page 28 and "Export SMF" on page 30.

Entering the Style Record mode

While in the Style Play operating mode, press the RECORD button. The following page will appear in the display:

- Select **Record/Edit Current Style** to edit the current Style. If it is a Factory Style, you may not be able to save it at the original location (depending on the status of the "Factory Style and Pad Protect" parameter, see page 236 of the User's Manual); you will select a User Style instead.
- Select **Record New Style** to start from a new, empty Style. A default Style Performance will be recalled. When finished recording, you will save the new Style onto a User Style location. (Styles can be saved onto Factory Style locations only when the "Factory Style and Pad Protect" parameter is set to Off – see page 236 of the User's Manual).

After editing the Style or Pad, please save it (see "Exit by saving or deleting changes" below) and exit the Style/Pad Record mode.

Then, edit the Style track settings. Go to the Style Play mode, edit the Style Settings to adjust track settings (Tempo, Volume, Pan, FX Send… see page 119 and following in the "Style Play operating mode" chapter of the User's Manual) and save it by selecting the "Write Current Style Settings" from the page menu (see "Write Style Settings dialog box" on page 139 of the User's Manual).

Note: *After a record or edit operation, the memory is automatically reorganized. Therefore, when you press START/STOP there is a delay before you can actually listen to the Style. This delay is higher with a Style containing more MIDI events.*

Note: *While in Record mode, the footswitch and EC5 pedals are disabled. On the contrary, volume/expression-type pedals can be used.*

Exit by saving or deleting changes

When finished editing, you can save your Style or Pad in memory, or abort any change.

• To save changes, select the "Write Style" command from the page menu (see "Write Style dialog box" on page 31).

• To abort all changes, select the "Exit from Record" command from the page menu, or press the RECORD button, to exit from record and return to the main page of the Style Record mode.

Hint: *Save often while recording, to avoid accidentally losing your changes to the Style.*

Listening to the Style while in Edit mode

While you are in Style/Pad Record mode, you can listen to the selected Chord Variation or to the whole Style or Pad, depending on the page you are in.

To select a Chord Variation, go to the Main page of the Record/Edit mode (see "Element (Style Element)" and "Chord Var (Chord Variation)" on page 6).

- When you are in the Main, Event Edit, Quantize, Transpose, Velocity, or Delete pages, you can listen to the selected Chord Variation. Press START/STOP to check how it works. Press START/STOP again to stop the playback.
- When you are in the Sounds/Expression, Keyboard Range, Chord Table, Trigger/Tension, Delete All, Copy, Style/Pad Element Controls or Style/Pad Control pages, you can listen to the whole Style or Pad. Press START/STOP and play some chords to do your tests. Select any Style/Pad Element using the control panel buttons (VARIATION 1-4, INTRO 1-3, FILL 1-4, BREAK, ENDING 1-3). Press START/STOP again to stop the playback.
- When you are in the Guitar Mode page, you can listen to the pattern you are programming, played in the selected Key.

Note: *While in Style Record mode, the Fingered 3 Chord Recognition mode is automatically selected.*

List of recorded events

The Style/Pad Record mode filters out some events that may cause wrong operation of the Style or Pad. Here are the recorded events, and the most important filtered-out events.

Control function	**CC#**
Allowed	
Note On	
RX Noise On	
Pitch Bend	
Channel After Touch	
Modulation	1
Breath	2
Pan	10
Expression	11
CC#12	12
CC#13	13
Damper (Hold 1)	64
Filter Resonance (Harmonic Content)	71
Low Pass Filter Cutoff (Brightness)	74
CC#80 (General Purpose #5)	80
CC#81 (General Purpose #6)	81
CC#82 (General Purpose #7)	82

Note: *Some Control Change messages cannot be recorded directly by using Pa3X integrated controls (like the Ribbon Controller).*

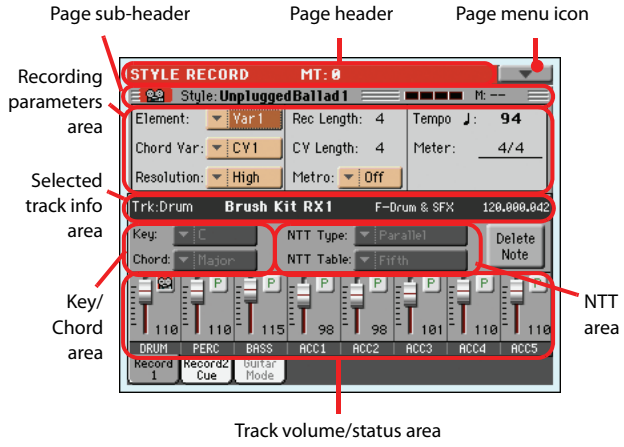
All allowed controllers can be assigned to an Assignable Pedal/Slider/Switch.

MIDI Control Change messaged inserted by using a software on an external computer are imported when using the import function ("Import: Import SMF" on page 28).

Some controllers are reset at the end of the pattern.

Main page - Record 1

After having pressed the RECORD button, and having chosen whether you want to edit an existing Style or create a new one, the main page of the Style Record mode appears, with the tab “Record 1” selected.



Page header

This line shows the current operating mode and transposition.

Operating mode name

Name of the current operating mode.

Master transpose

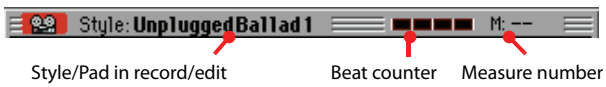
Master transpose value in semitones. This value can be changed using the TRANSPOSE buttons on the control panel.

Page menu icon

Touch this icon to open the page menu. See “Page menu” on page 31.

Page sub-header

This area shows some performing info on the Style/Pad.



Style in record/edit

Name of the Style currently in edit or record.

Beat counter

This indicator shows the current beat inside the current measure.

Measure number

Current measure you are recording.

Recording parameters area

Element (Style Element)

This parameter lets you select a Style Element for editing. Each Style Element corresponds to a button on the control panel carrying the same name. After selecting a Style Element, select a Chord Variation for actual editing (see below).

Var1…End3 This is the selected Style Element

Chord Var (Chord Variation)

This parameter lets you select a Chord Variation for editing, after selecting the Style Element this Chord Variation belongs to.

Note: *When this parameter and the assigned value is in small letters (cv1…cv6), the Chord Variation is empty; when it is in capitals (CV1…CV6), it is already recorded.*

• If the Style Element is Var1, Var2, Var 3 or Var4, you can select one of 6 Chord Variations to edit.

• If the Style Element is Intro1, Intro2, Intro3, Fill1, Fill2, Fill3, Fill4, Ending1, Ending2 or Ending3, you can select one of 2 Chord Variations to edit.

Resolution

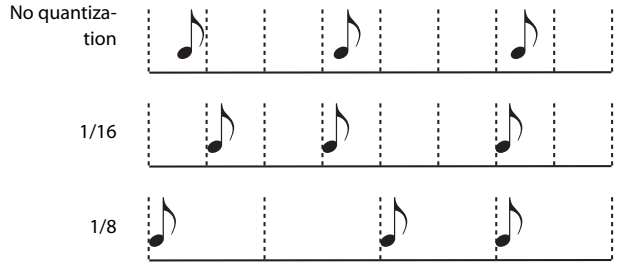
Use this parameter to set the quantization during recording. Quantization is a way of correcting timing errors; notes played too soon or too later are moved to the nearest axis of a rhythmic “grid”, set with this parameter, thus playing perfectly in time.

Note: *To quantize after recording, use the Quantize function in the Edit section (see “Style Edit: Quantize” on page 19).*

High No quantization applied.

♪ (1/32)… ♩ (1/8)

Grid resolution, in musical values. For example, when you select 1/16, all notes are moved to the nearest 1/16 division. When you select 1/8, all notes are moved to the nearest 1/8 division. A ‘3’ after the quantization value means triplet.



Rec Length (Recording Length) ▸STYLE

This parameter sets the recording length (in measures) of the selected track. Its value is always equal to, or a divider of, the Chord Variation Length (see next parameter).

This is not the total length of the Chord Variation, but just of the current track. For example, you may have a Chord Variation eight measures long, with a drum pattern repeating each two measures. If so, set the CV Length parameter to “8”, and the Rec Length parameter to “2” before starting recording the Drum track. When playing back the Style, saving it or executing any edit operation on the Style, the 2-measures pattern will be extended to the full 8-measures length of the Chord Variation.

Warning: *If you assign CV Length a value lower than Rec Length, the value of Rec Length is not immediately updated in the display. Therefore, you are still free of changing the value of CV Length, before the measures exceeding its value are deleted (see warning in "CV Length (Chord Variation Length)" below).*

However, if you press START/STOP to begin recording, the real Rec Length value is changed to the new one, even if the display still shows the old value.

For example, you may have CV Length = 4 and Rec Length = 4. If you set CV Length to 2, and press START/STOP to begin recording, Rec Length is still shown as 4, but it is in reality set to 2, and recording will cycle for just 2 measures. After you press START/STOP to stop recording, Rec Length is updated to 2, and all measures after the second measure are deleted.

CV Length (Chord Variation Length)

▸STYLE

This parameter sets the total length (up to 32 measures) for the selected Chord Variation. When playing a Style, this will be the length of the accompaniment pattern, when the chord corresponding to the Chord Variation is recognized on the keyboard.

Warning: *If you reduce the Chord Variation Length after recording, any measure after the selected length will be deleted. Be very careful when setting the CV Length to a lower value after recording! If it happens, we suggest to exit from record without saving (see "Exit from Record" on page 31).*

Metro (Metronome)

This is where you can set the metronome.

Off	No metronome click will be heard during recording. In any case, a one-bar precount will be played before starting recording.
On1	Metronome on, with a one-bar precount before starting recording.
On2	Metronome on, with a two-bar precount before starting recording.

Tempo

Select this parameter to use TEMPO controls to set the tempo.

Hint: *You can always change the Tempo, when other parameters are selected, by keeping the SHIFT button pressed, and rotating the DIAL.*

Note: *When recording Tempo, old data is always replaced by the new data.*

Note: *The actual Tempo of the Style will be the one shown when saving the Style Performance in Style Play mode (see "Current Tempo" on page 112* of the User's Manual*).*

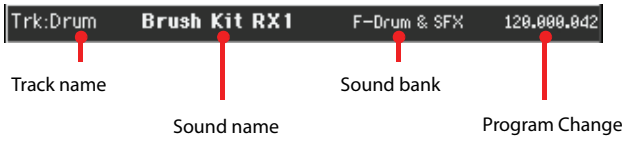
Meter

▸STYLE

This is the meter (time signature) of the Style Element. You can edit this parameter only when the Style Element is empty, i.e. before you begin recording anything.

Selected track info area

This line lets you see the Sound assigned to the selected track.



Track name

Name of the selected track.

Drum…Acc5 Style track.

Sound name

▸STYLE

Sound assigned to the selected track. The triangle means you can touch the name to open the Sound Select window, and select a different Sound.

Sound bank

Bank the selected Sound belongs to.

Program Change

Program Change number sequence (Bank Select MSB, Bank Select LSB, Program Change).

Key/Chord area

Key/Chord

▸STYLE

This parameter pair allows you to define the track's original key and chord type, for the current Chord Variation. When in Style Play mode, this chord will be played back exactly as it was recorded, without any NTT processing (see above).

To record just one Chord Variation for a Style Element, the suggested original key/chord is "maj7" (with NTT = i-Series). Be very careful to play the 7th+ note (i.e., with a "Cmaj7th" key/chord, the B), to avoid the lack of notes, or a bad NTT conversion when playing different chords.

Note: *To conform to Korg specifications, it is advisable to record both the "Major" and "minor" Chord Variations for the Intro 1 and Ending 1 Style Elements.*

When you select a track, the original key/chord assigned to the selected track will be shown. All recorded tracks will play back on that key/chord. For example, if the original key/chord for the Acc1 track is A7th, when selecting the Acc1 track all the remaining tracks will play on the A7th key/chord.

In the example above, you will record the Acc1 track in the AMajor key, with notes pertaining to the A7th scale. This exact pattern will be recalled, when an A7th chord will be recognized.

Note: *This does not apply to Guitar Mode, relying on a different rule. See "Main page - Guitar Mode" on page 10 for more infomation.*

NTT Area

NTT Type/Table

▸STYLE

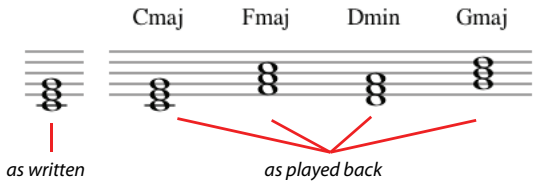
NTTs (Note Transposition Tables) are the sophisticated algorithms that allow Korg arrangers to convert recognized chords into musical patterns. The Note Transposition Table (NTT) determines how the arranger will transpose pattern notes, when a chord is recognized that does not exactly match the original chord of a Chord Variation. For example, if you only recorded a Chord Variation for the CMaj chord, when a CMaj7 is recognized on the keyboard the arranger must transpose some notes to create the missing 7th.

Note: *These parameters cannot be selected with Drum or Percussion tracks, and are therefore greyed out.*

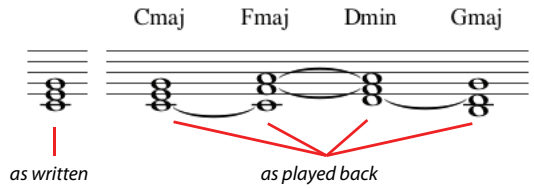
Note: *NTT parameters are separately programmed for each track of the Style Element.*

There are two general types of NTTs:

• When ***Parallel*** types are selected, notes are transposed inside the area set by the Wrap Around parameter. These tables are ideally suited to melody parts.



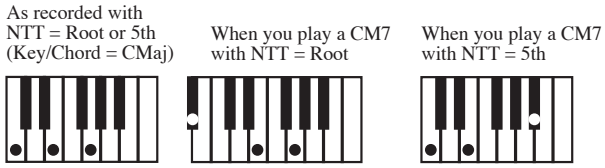
• When ***Fixed*** types are selected, the arranger moves as few notes as possible, making legato lines and chord changes more natural. They are ideally suited to chord tracks (strings, piano etc…).



Note: *To conform to Korg specifications, it is advisable to set the NTT to "No Transpose" on the Intro 1 and Ending 1.*

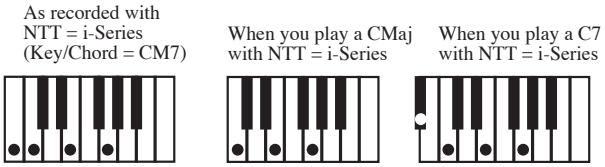
Parallel/Root The root note (in CMaj = C) is transposed to the missing notes.

Parallel/Fifth The 5th note (in CMaj = G) is transposed to the missing notes.



Parallel/i-Series

All original patterns must be programmed on the "Maj7" or "min7" chords. When loading old Korg i-Series Styles, this option is automatically selected.



Parallel/No Transpose

The chord is not modified, and is moved to the new key unchanged. The pattern plays exactly the recorded notes, and is moved to the new key as is. This is the standard setting of Intro 1 and Ending 1 in Korg's original Styles (where a chord progression is usually recorded, and should remain unchanged in any key).

Fixed/Chord This table moves as few notes as possible, making legato lines and chord changes more natural. It is ideally suited to chord tracks (strings, piano etc…). Contrary to the Parallel mode, the programmed chord is not transposed according to the Wrap Around parameter, but always stays around its original position, looking for common notes between the chords.

Fixed/No Transpose

The programmed notes can only be transposed by the Master Transpose. They are never transposed when chords are changed.

Delete Note button

Use this command to delete a single note or a single percussive instrument from a track. For example, to delete a snare, keep the D2 note (corresponding to the snare) pressed.

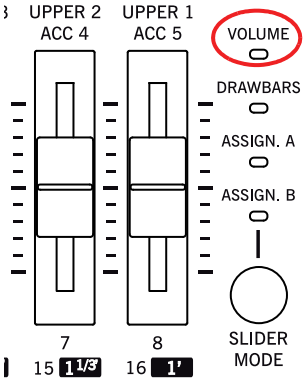
1. Select a track.
2. Touch the "Delete Note" button, and keep it pressed.
3. Press START/STOP to start the Style.
4. When you reach the passage containing the note to be deleted, play the note on the keyboard. Keep it pressed, up to the last note to be deleted.
5. When finished, release the Delete button and the note to be deleted, and press START/STOP again to stop the Style.

   Note: *If the note is at the beginning of the pattern, press the note before starting the Style.*

Tracks volume/status area

Virtual sliders

Each virtual slider in the display corresponds to an Assignable Slider on the control panel. Use the Assignable Sliders to change each value, provided the VOLUME LED (over the SLIDER MODE button) is turned on. This LED status depends on the last selected Performance, but can be changed anytime by using the SLIDER MODE button.



As an alternative, touch the track's area to select a track, and use VALUE controls to change the value (or touch and drag it in the display).

Track status icons

▸STYLE ▸PAD

Status of tracks. Touch this icon to change the status.

P	Play status. The track can be heard.
M	Mute status. The track cannot be heard.
	Record status. After starting recording, the track will receive notes from the keyboard and the MIDI IN connector.

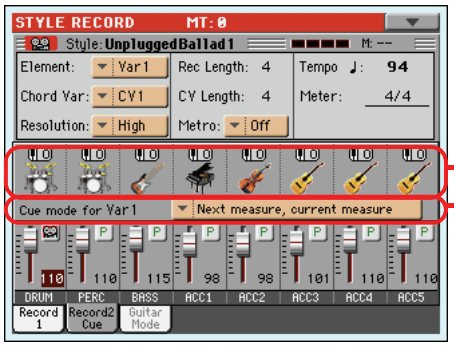
Track names

Under the sliders, a label for each track is shown.

Drum…Acc5 Shown Style tracks.

Main page - Record 2/Cue

While in the main page, touch the "Record 2/Cue" tab to see this page. Most parameters in this page are the same as in "Main page - Record 1". In addition, here you can see and select Sounds for each Style track, and the Cue mode for the Style Element.



Sounds area

This area lets you see Sounds and octave transposition for the eight Style tracks.

Octave transpose icon

Non editable. This indicator shows the track's octave transposition. Tracks will be recorded with the selected octave transposition. To change this value, use the UPPER OCTAVE buttons, or go to the "Mixer/Tuning: Tuning" edit page in the Style Play mode (see page 123 of the User's Manual). Save this value to the Style Settings.

Sound bank's icon

▸STYLE

This picture illustrates the bank the current Sound belongs to. Touch an icon a first time to select the corresponding track (detailed information are shown on the Selected Track Info area, see the "Record 1" page above). Touch it a second time to open the Sound Select window.

Note: *These Sounds can be replaced by Sounds selected by a Performance, provided the "Original Style Sounds" parameter is left unchecked in Style Play mode (see page 114* of the User's Manual*).*

Cue area

Cue mode for [Style element] ▸STYLE

This parameter lets you decide how the current Style Element will enter after it has been selected. This setting is only available for the 'Variation' and 'Fill' Style Elements.

Immediate, first measure

The Style Element enters immediately, and begins from the first measure. *Only available on Fills.*

Immediate, current measure

The Style Element enters immediately, and begins from the current measure. *Only available on Fills.*

Next measure, first measure

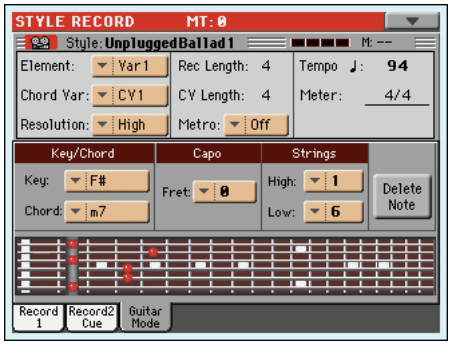
The Style Element enters at the beginning of the next measure, and begins from the first measure of the new pattern. *Available on both Fills and Variations.*

Next measure, current measure

The Style Element enters at the beginning of the next measure, and begins from the current measure. *Only available on Variations.*

Main page - Guitar Mode

While in the main page, and a Guitar track has been selected, touch the "Guitar Mode" tab to see this page. This is where you can access Guitar Mode programming:



Note: *To access this page, a Guitar track must first be selected (see "Track Type" on page 27 of the User's Manual). Otherwise, the Guitar Mode tab will remain grey (not selectable).*

Note: *When programming a Guitar track from an external sequencer, you must be sure the Guitar tracks is associated to the right channel. Go to the Global > MIDI > MIDI IN Channels page, and assign the corresponding Style track (usually Acc1 ~ Acc5) to the same channel of the Guitar track on the external sequencer. Then, go to the Style Record > Style Track Controls > Type/Tension/Trigger page, and set the track as a track of type "Gtr" (see "Track Type" on page 27* of the User's Manual*).*

Guitar Mode allows to easily create realistic rhythm guitar parts, without the artificial, unmusical playing typical of MIDI programming of guitar parts. Just record a few measures, and you will end up with realistic rhythm guitar tracks, where each chord is played according to its real position on the guitar, and not generated by simply transposing a written pattern.

Recording overview

Recording a Guitar track is unlike recording the other tracks, where you play exactly all the notes of a melody line or all the chords of an accompaniment part. With Guitar tracks you can:

a) play the keys corresponding to the strumming modes,

b) play an arpeggio using the six keys corresponding to the six guitar strings (and the special keys corresponding to the root and fifth notes),

c) play RX Noises to add realism to the pattern,

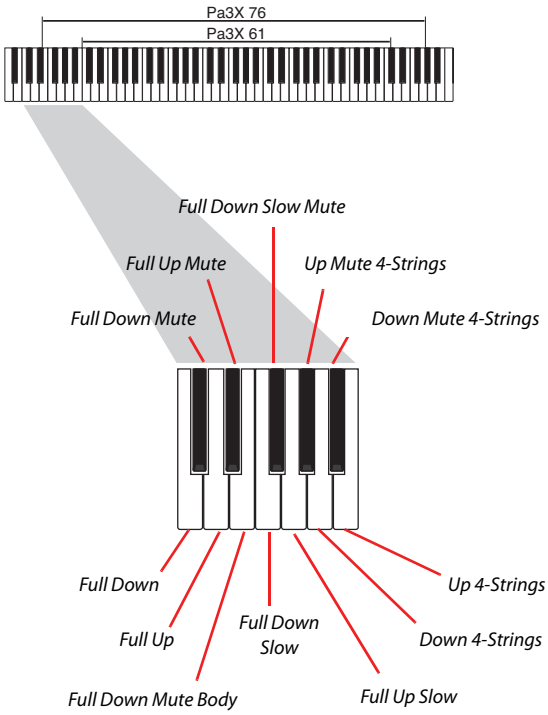
d) add regular patterns, for short melodic passages without wasting an Acc track,

e) use the finest MIDI programing to select Chord Shapes, and recreate any nuance of a guitar performance.

The following sections describe the various control keys available for this guitar simulation.

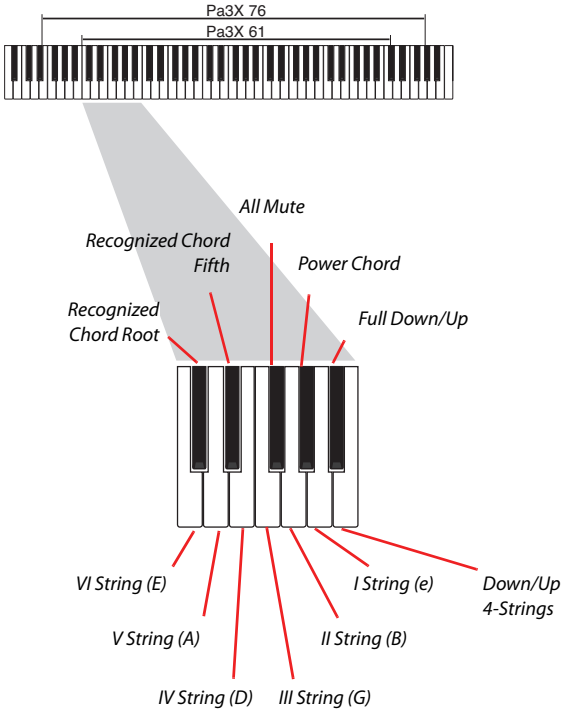
Recording strumming types

The octave from C1 to B1 is devoted to selecting a ***strumming type.*** By pressing these keys, you play fast strumming samples:



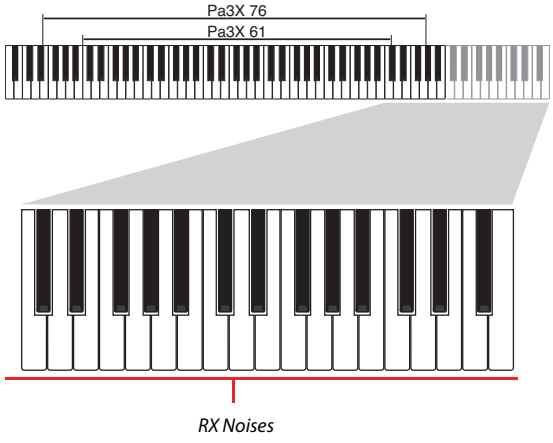
Recording single strings

The octave from C2 to B2 is devoted to selecting a *single string* (or more than one) for playing arpeggios or power chords. You can either play a free arpeggio with the six guitar chords assigned to the C~A keys, or play one of the faster sampled arpeggios on the higher keys. The root note is always available on the C# key, while the fifth note is always assigned to the D# key; with them, you can always play the lowest notes of an arpeggio. This octave also includes an 'all mute' key (F#):



Recording RX Noises

Further on, the upper octaves are used to trigger ***RX Noises:***



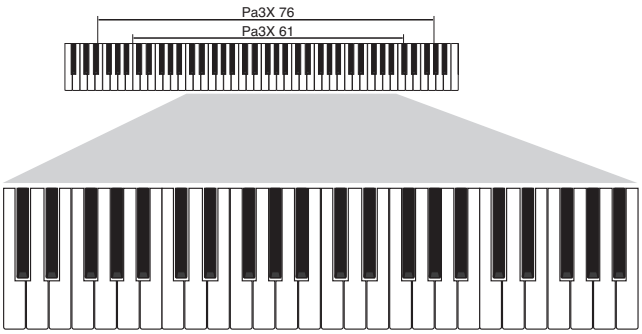
Selecting a Capo

Together with strumming types, single strings and RX Noises, you can choose a Capo (capotasto). Note that this might prevent some single strings to sound, depending on the composed chord. You can always see with strings are playing and which are not, as described in the "Diagram" section below.

Recording a regular pattern

Together with strums and arpeggios, you can record regular patterns, exactly as if the track was of Acc type (see "Track Type" on page 27 of the User's Manual). This will save an Accompaniment track, when all you need is just to record some short melodic passages (for example, the closing of a strumming pattern).

You can record the pattern by playing it in the range shown by the diagram.



Recording a Chord Shape

You can finely choose Chord Shapes by using MIDI messages. When you play a C0 note with the velocity value shown in the following table, a chord is played in a particular position and on a certain number of strings.

Vel.	Range	from Str.	to Str.	Position
0	6 Strings	I	VI	0
1	6 Strings	I	VI	0
2	6 Strings	I	VI	1
3	6 Strings	I	VI	2
4	6 Strings	I	VI	3
5	6 Strings	I	VI	4
6	6 Strings	I	VI	5
7	5 Strings Bass	II	VI	0
8	5 Strings Bass	II	VI	1
9	5 Strings Bass	II	VI	2
10	5 Strings Bass	II	VI	3
11	5 Strings Bass	II	VI	4
12	5 Strings Bass	II	VI	5
13	5 Strings Treble	I	V	0
14	5 Strings Treble	I	V	1
15	5 Strings Treble	I	V	2
16	5 Strings Treble	I	V	3
17	5 Strings Treble	I	V	4
18	5 Strings Treble	I	V	5
19	4 Strings Bass	III	VI	0
20	4 Strings Bass	III	VI	1
21	4 Strings Bass	III	VI	2
22	4 Strings Bass	III	VI	3
23	4 Strings Bass	III	VI	4
24	4 Strings Bass	III	VI	5
25	4 Strings Middle	II	V	0
26	4 Strings Middle	II	V	1
27	4 Strings Middle	II	V	2
28	4 Strings Middle	II	V	3
29	4 Strings Middle	II	V	4
30	4 Strings Middle	II	V	5
31	4 Strings Treble	I	IV	0
32	4 Strings Treble	I	IV	1
33	4 Strings Treble	I	IV	2
34	4 Strings Treble	I	IV	3
35	4 Strings Treble	I	IV	4
36	4 Strings Treble	I	IV	5
37	3 Strings Bass	IV	VI	0
38	3 Strings Bass	IV	VI	1
39	3 Strings Bass	IV	VI	2
40	3 Strings Bass	IV	VI	3
41	3 Strings Bass	IV	VI	4
42	3 Strings Bass	IV	VI	5
43	3 Strings MiddleBas	III	V	0
44	3 Strings MiddleBas	III	V	1
45	3 Strings MiddleBas	III	V	2
46	3 Strings MiddleBas	III	V	3
47	3 Strings MiddleBas	III	V	4
48	3 Strings MiddleBas	III	V	5
49	3 Strings MiddleTreble	II	IV	0
50	3 Strings MiddleTreble	II	IV	1
51	3 Strings MiddleTreble	II	IV	2
52	3 Strings MiddleTreble	II	IV	3
53	3 Strings MiddleTreble	II	IV	4
54	3 Strings MiddleTreble	II	IV	5
55	3 Strings Treble	I	III	0
56	3 Strings Treble	I	III	1
57	3 Strings Treble	I	III	2
58	3 Strings Treble	I	III	3
59	3 Strings Treble	I	III	4
60	3 Strings Treble	I	III	5
61	2 Strings Bass	V	VI	0
62	2 Strings Bass	V	VI	1
63	2 Strings Bass	V	VI	2
64	2 Strings Bass	V	VI	3
65	2 Strings Bass	V	VI	4
66	2 Strings Bass	V	VI	5
67	2 Strings MiddleBas	IV	V	0
68	2 Strings MiddleBas	IV	V	1
69	2 Strings MiddleBas	IV	V	2
70	2 Strings MiddleBas	IV	V	3
71	2 Strings MiddleBas	IV	V	4
72	2 Strings MiddleBas	IV	V	5
73	2 Strings Middle	III	IV	0
74	2 Strings Middle	III	IV	1
75	2 Strings Middle	III	IV	2
76	2 Strings Middle	III	IV	3
77	2 Strings Middle	III	IV	4
78	2 Strings Middle	III	IV	5
79	2 Strings MiddleTreble	II	III	0
80	2 Strings MiddleTreble	II	III	1
81	2 Strings MiddleTreble	II	III	2
82	2 Strings MiddleTreble	II	III	3
83	2 Strings MiddleTreble	II	III	4
84	2 Strings MiddleTreble	II	III	5
85	2 Strings Treble	I	II	0
86	2 Strings Treble	I	II	1

Vel.	Range	from Str.	to Str.	Position
87	2 Strings Treble	I	II	2
88	2 Strings Treble	I	II	3
89	2 Strings Treble	I	II	4
90	2 Strings Treble	I	II	5

Choosing a Key/Chord for Intro 1 and Ending 1

The pattern is recorded in the key indicated by the Key/Chord pair of parameters. However, this parameter is only used for playback by the Intro 1 and Ending 1 Style Elements. All other Style Elements will be played back according to the recognized chord.

With Intro 1 and Ending 1 (both Chord Variation 1 and 2) you can also prefer to enter a chord progression, to be played on the lowest MIDI octave (C-1 ~ B-1). Chord types are inserted by using velocity values, as shown in the following table:

Vel.	Chord Type	Vel.	Chord Type
1	Major	2	Major 6th
3	Major 7th	4	Major 7th flatted 5th
5	Suspended 4th	6	Suspended 2nd
7	Major 7th suspended 4th	8	Minor
9	Minor 6th	10	Minor 7th
11	Minor 7th flatted 5th	12	Minor major 7th
13	Dominant 7th	14	7th flatted 5th
15	7th suspended 4th	16	Dimished
17	Diminished major 7th	18	Augmented
19	Augmented 7th	20	Augmented major 7th
21	Major w/o 3rd	22	Major w/o 3rd and 5th
23	Flatted 5th	24	Diminished 7th

Playing back the pattern

When in Stye Play mode, the recorded Guitar pattern is transposed according to the chord recognized on the keyboard. The way it is transposed depends on the programmed pattern, with the chosen positions, strumming mods, etc…

Guitar mode parameters

Here is a detailed description of the parameters of the Guitar Mode page.

Key/Chord

▸STYLE

This parameter pair allows you to define the track's original key and chord type. This parameter works in a different way than the other tracks. While with other tracks this is always the reference key used for NTT transposition, with Guitar tracks there is a difference, whether you are recording a Chord Variation contained in an Intro 1 or Ending 1 Style Element, or any other Chord Variation:

- With Intro 1 and Ending 1, this chord will be used as the reference key for the chord progression.
- With all the other Chord Variations, this chord will be used only for listening during recording. During playback in Style Play mode, the chord will follow chord recognition.

Capo - Fret

▸STYLE

A capo (from the Italian "capotasto", "head of fingerboard") is a movable bar attached to the fingerboard of the guitar, to uniformly raise the pitch of all the strings. Its use makes the strings shorter, therefore changing the timbre and position of the chords (but not its shape).

0 Open string – no capo.

I…X Position of the capo over the fingerboard (i.e., "I" corresponds to the first fret, "II" to the second one, and so on).

Strings - High/Low

▸STYLE

Use this pair of parameters to choose the strings the pattern will be played on.

1…6 Position of the capo over the fingerboard (i.e., "I" corresponds to the first fret, "II" to the second o

Diagram

The diagram shows how a chord would be composed on the fingerboard. Here is the meaning of the various symbols:

Red dot Fingered string (i.e., played note).

White dot Fifth, playing on the D#2 key.

X Non played or muted note.

Light grey bar Barré (a finger crossing all the strings, like a mobile capo).

Dark grey bar Capo.

Style Record procedure

There are two different methods for recording a Style: Realtime and Step.

- Realtime Recording allows you to record Style patterns in realtime.
- Step Recording allows you to create a new Style by entering single notes or chords in each track. This is very useful when transcribing an existing score, or needing a higher grade of detail, and is particularly suitable to create drum and percussion tracks.

In addition, you can program a Style on a personal computer, and then import it via the Import function (see "Import: Import SMF" on page 28).

Preparing to record

1. If you like to edit an existing Style, select that Style.
2. Press the RECORD button to enter the Style Record mode. You are prompted to select either the Current Style, or a New Style.

   Select "Record/Edit Current Style" if you want to edit the current Style, or make a new Style starting from an existing one. Select "Record New Style" if you want to start from scratch with an empty Style.
3. After you select your preferred option, the main page of the Style Record mode will appear.
4. Select the Element (Style Element) and Chord Var (Chord Variation) parameters, to select the Chord Variation to be recorded/edited.

   Note: *For more information on the Style Elements and Chord Variations, and the Style structure in general, see "The Style structure" on page 3.*
5. Use the Rec Length (Recording Length) parameter to set the length (in measures) of the pattern to record.
6. Use the Meter parameter to set the Style Element's meter (time signature).

   Note: *You can edit this parameter only if you selected the "Record New Style" option when entering the Record mode, or when editing an empty Style Element.*
7. Select the Tempo parameter and set the tempo.
8. Touch the Record 2 tab to see the Sounds area. Here you can assign the right Sound to each Style track. You cannot select Digital Drawbars Sounds. (For more details, see "Sounds area" on page 9).
9. If needed, set the Octave Transpose for each track. ***Note:*** *The Octave Transpose will affect only the notes coming from the keyboard, and not from the arranger.*
10. At this point, if you want to do a Realtime Recording go on reading "Realtime Record procedure" below. Otherwise, if you prefer to do a Step Record, jump to "Step Record procedure" on page 15.

Realtime Record procedure

1. Select the track to record. Its status icon will turn to 'Record'. (For more details, see "Tracks volume/status area" on page 9).

   Note: When entering the Record mode, a track is already in Record status. When you press START/STOP after entering the Record mode, you can immediately start recording.

   If you like, you can try your part before recording:

   • Mute the track, by repeatedly touching its icon status, until the  (Mute) status icon appears.

   • Press START/STOP to let any recorded track play back, and practice on the keyboard.

   • When you have finished practicing, press START/STOP to stop the arranger, and unmute the track by repeatedly touching its icon status, until the  (Record) status icon appears again.
2. While the shown status icon is Record, press START/STOP to begin recording. Depending on the "Metro" (metronome) option you selected, a 1- or 2-bars precount may play before the recording actually begins. When it begins, play freely. The pattern will last for some measures, according to the Rec Length value, then restart.

   Since the recording will happen in overdub, you can add notes on any following passage. This is very useful to record different percussive instruments at any cycle on a Drum or Percussion track.

   Note: *While recording, track's* ***Keyboard Range*** *(see page 26) is ignored, and the track can play over the whole keyboard range. The* ***Local*** *parameter (see "Local Control On" on page 209 of the User's Manual) is also automatically set to On, to allow playing on the keyboard.*
3. When finished recording, press START/STOP to stop the arranger. Select a different track, and go on recording the full Chord Variation.

   Note: *You can select a different track only when the arranger is not running.*
4. When finished recording the Chord Variation, select a different Chord Variation or Style Element to go on recording the full Style.
5. When finished recording the new Style, select the "Write Style" command from the page menu, to open the Write Style dialog box (see "Write Style dialog box" on page 31) and save it to memory.

   To exit the Style Record mode without saving any change, select the "Exit from Record" command from the page menu, or press the RECORD button.

Step Record procedure

1. While in the main page of the Style Record mode, select the "Overdub Step Recording" command from the page menu, to enter the Overdub Step Record mode.
2. The "Pos" parameter shows the current position.

   • ***If you do not want to insert a note or chord at the current position, insert a rest instead, as shown in step 4.***

   • ***To jump to the next measure, filling the remaining beats with rests, touch the Next M. button in the display.***
3. To change the step value, use the "Step Time values" area in the display.
4. Insert a note, rest or chord at the current position.

   • To insert a single note, just play it on the keyboard. The inserted note length will match the step length. You may change the velocity and relative duration of the note, by editing the "Duration" and "Velocity" parameters (see page 34).

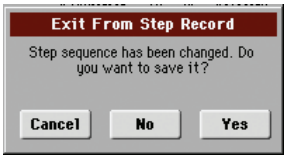
   • To insert a rest, just touch the Rest button in the display. Its length will match the step value.

   • To tie the note to be inserted to the previous one, touch the Tie button in the display. A note will be inserted, tied to the previous one, with exactly the same name. You don't need to play it on the keyboard again.

   • To insert a chord or a second voice, see "Chords and second voices in Step Record mode" on page 180 of the User's Manual.
5. After inserting a new event, you may go back by touching the Back button in the display. This will delete the previously inserted event, and set the step in edit again.
6. When the end of the pattern is reached, the "End of Loop" event is shown, and the recording restarts from the "001.01.000" position. Any note exceeding the pattern length, inserted at its end, will be reduced to fit the total length of the pattern.

   At this point, you may go on, inserting new events in overdub mode (the previously inserted events will not be deleted). This is very useful when recording a drum or percussion track, where you may want to record the bass drum on a first cycle, the snare drum on the second cycle, and the hi-hat and cymbals during the following cycles.
7. When finished recording, touch the Done button in the display to exit the Step Record mode.

   A dialog box appears, asking you to either cancel, discard or save the changes.



   If you touch Cancel, exit is canceled, and you can continue editing. If you choose No, changes are not saved, and the Step Record window is closed. If you choose Yes, changes are saved, and the Step Record window is closed.
8. When back to the main page of the Style Record mode, you may turn all tracks to the play status, then press START/STOP to listen to the Style. Press START/STOP again to stop the playback.
9. From the main page of the Style Record mode, select either the "Write Style" or the "Exit from Record" command to exit from the Style record mode, respectively by saving the Style to memory (see "Write Style dialog box" on page 31), or by canceling any change.

Chords and second voices

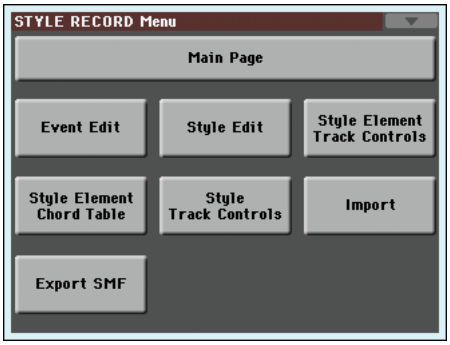
With Pa3X, you are not limited to inserting single notes in a track. There are several ways to also insert chords and double voices. For more information, see "Chords and second voices in Step Record mode" on page 180 of the User's Manual.

Edit menu

From any page (apart for Step Record), press the MENU button to open the Style Record edit menu. This menu gives access to the various Style Record edit sections.

When in the menu, select an edit section, or press EXIT to exit the menu and return to the main page. To return to the main page, you can also select the Main Page menu item.

When in an edit page, press the EXIT button to return to the main page of the Style Record mode.

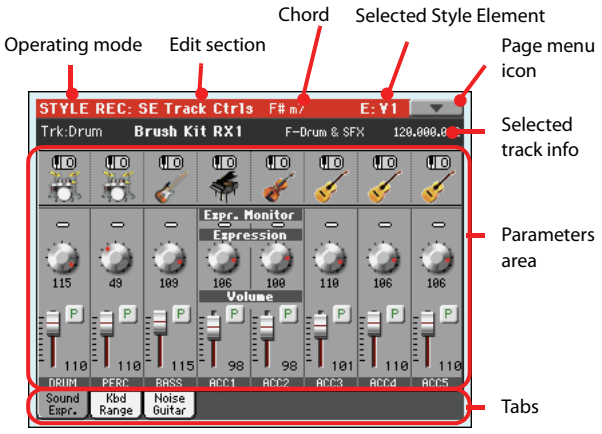


Note: *While the Style is in play, you cannot access the Edit section pages from the main page (see page 6 of the User's Manual). Stop the playback before pressing MENU.*

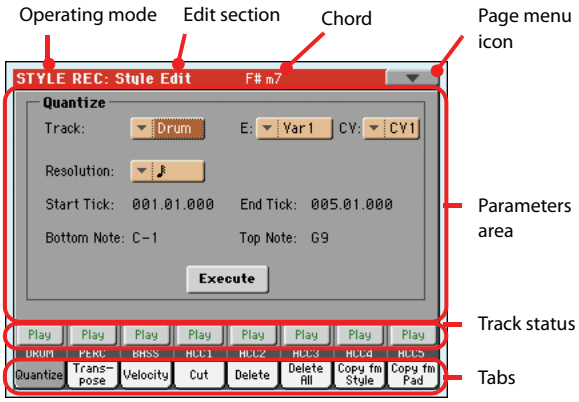
Note: *When switching from the Edit section pages (Quantize, Transpose, Velocity, Delete) to the other pages, or vice-versa, the Style (if in play) is automatically stopped.*

Edit page structure

Most edit pages share some basic elements.



Other pages have a slightly different structure.



Operating mode

This indicates that the instrument is in Style Record mode.

Edit section

This identifies the current edit section, corresponding to one of the items of the edit menu (see "Edit menu" on page 16).

Chord

Chord in edit.

Selected Style Element

In Style Record mode, edits always happen on the selected Style Element.

Page menu icon

Touch this icon to open the page menu (see "Page menu" on page 31).

Parameters area

Each page contains various parameters. Use the tabs to select one of the available pages. For detailed information on the various types of parameters, see sections starting from page 17.

Track status

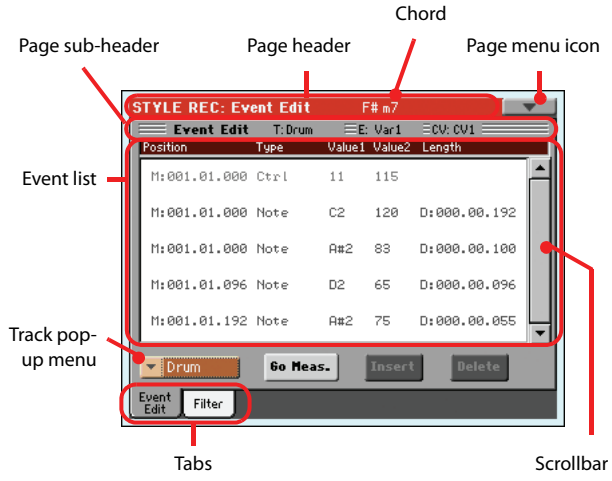
Use these buttons to mute/unmute tracks while editing.

Tabs

Use tabs to select one of the edit pages of the current edit section.

Event Edit: Event Edit

The Event Edit is the page where you can edit each single MIDI event of the selected Chord Variation. You can, for example, replace a note with a different one, or change its playing strength (i.e., velocity value). See "Event Edit procedure" on page 18 for more information on the event editing procedure.



Page header

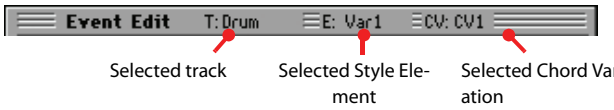
See "Page header" on page 6.

Page menu icon

Touch this icon to open the page menu. See "Page menu" on page 31.

Page sub-header

This area shows some performing info on the Song.



Selected track

Name of the track in edit. Use the Track pop-up menu to select one of the Style tracks.

SE/CV (Style Element/Chord Variation)

Selected Style Element and Chord Variation. This parameter cannot be edited. To select a different Style Element and Chord Variation, press EXIT to go back to the main page of the Style Record mode (see "Main page - Record 1" on page 6).

Event list

Use the Event list to see all events contained in the selected track in the selected Style Element.

Use the scrollbar to browse through the events. You can also scroll by using the SHIFT + DIAL combination.

Touch the event to be selected. Selected events are highlighted and can be heard.

Position

Position of the event, expressed in the form 'aaa.bb.ccc':

- 'aaa' is the measure
- 'bb' is the beat
- 'ccc' is the tick (each quarter beat = 384 ticks)

You can edit this parameter to move the event to a different position. You can edit a position in either of the following ways:

(a) select the parameter, and use the VALUE controls to change the value, or

(b) select the parameter, then touch it again; the numeric keypad will appear. Enter the new position by dialing in the three parts of the number, separated by a dot. Zeroes at the beginning can be omitted, as well as the least important parts of the number. For example, to enter position 002.02.193, dial "2.2.193"; to enter position 002.04.000 dial "2.4"; to enter position 002.01.000, simply dial "2".

Type, Value 1, Value 2

Type and values of the event shown in the display. Depending on the selected event, the value may change. This parameter also shows the (greyed-out, so non editable) "CC#11" (Expression) event at the beginning of the pattern, and the "End Of Loop" marking, when the end of a track is reached.

To change the event type, select the Type parameter, then use the VALUE controls to select a different event type. A set of default values will be automatically assigned to the event.

To select and edit the event's value, select the corresponding parameter, and use VALUE controls.

Length

Length of the selected Note event. The value format is the same as the Position value. This is only available for Note events.

Note: *If you change a length of "000.00.000" to a different value, you can't go back to the original value. This rather uncommon zero-length value may be found in some drum or percussion tracks.*

Scrollbar

Use the scrollbar to browse the event through the list. (As an alternative, use Shift + Dial).

Other elements

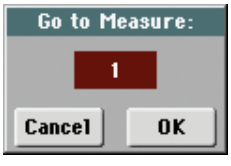
Track pop-up menu

Use this pop-up menu to select the track to edit, inside the current Chord Variation.

Drum…Acc5 Style track.

Go Meas.

While the Style is not running, touch this button to open the Go to Measure dialog box:



When in this dialog box, select a target measure, and touch OK. The first event available in the target measure will be selected.

Insert

Touch the Insert button in the display to insert a new event at the current shown Position. The default values are Type = Note, Pitch = C4, Velocity = 100, Length = 192.

Delete

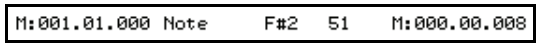
Touch the Delete button in the display to delete the event selected in the display.

Event Edit procedure

Here is the general procedure to follow for the event editing.

1. Select the Style to edit, and press the RECORD button. Select the "Current Style" option to enter recording. The main page of the Style Record mode will appear.
2. Select the "Element (Style Element)" and "Chord Var (Chord Variation)" parameters.

   Note: *For more information on the Style Elements and Chord Variations, and the Style structure in general, see "The Style structure" on page 3.*
3. Press MENU, and select the Event Edit section. The Event Edit page appears (see "Event Edit: Event Edit" on page 17 for more information).
4. Press START/STOP to listen to the selected Chord Variation. Press START/STOP to stop it. Chord Scanning does not work, so you will listen the pattern at the original Key/Chord.
5. Touch the Filter tab to select the Filter page, and uncheck the filters for the event types you wish to see in the display (see "Event Edit: Filter" on page 19 for more information).
6. Touch the Event Edit tab to go back to the Event Edit page.
7. Use the Track pop-up menu to select the track to edit (see "Track pop-up menu" on page 17).
8. The list of events contained in the selected track (inside the Chord Variation selected on step 2) will appear in the display. Some events on the beginning of the Chord Variations, as well as the "EndOfTrk" event (marking its ending point) cannot be edited, therefore appearing in grey.
9. Scroll though the various events by using the scrollbar.
10. Select an event to be edited by touching it in the display. This is usually a note, that you can edit.

    For more information on the event types and their values, see "Event Edit: Event Edit" on page 17.
11. Edit the event.

    • Select the "M" parameter. Use VALUE controls to change the event's position.

    • Select the Type parameter. You may use VALUE controls to change the event type, as well as its Value 1 and Value 2.

    • If a Note event is selected, select the Length parameter, and use VALUE controls to change the event's length.
12. You may use the Go Meas. command to go to a different measure (see "Go Meas." on page 17)
13. As described in step 4, you may press START/STOP to listen how the pattern sounds after your changes. Press START/STOP again to stop the pattern running.
14. Touch the Insert button in the display to insert an event at the Position shown in the display (a Note event with default values will be inserted). Touch the Delete button in the display to delete the selected event.
15. When editing is complete, you may select a different track to edit (go to step 7).
16. When finished editing the selected Chord Variation, press EXIT to go back to the main page of the Style Record mode, then go to step 2 to select and edit a different Chord Variation.
17. When finished editing the whole Style, select the "Write Style" command from the page menu to open the Write Style dialog box (see "Write Style dialog box" on page 31), or select the "Exit from Record" command to cancel all changes.

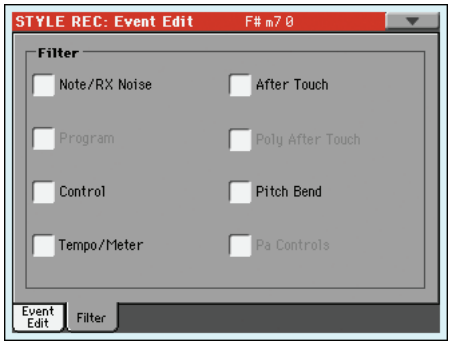
    • Touch the T (Text Edit) button to enter the Text Edit dialog box. Enter a name and confirm by selecting OK.

    • Select a target memory location where to save the Style. The name of the Style already existing at the selected location is shown after the Style Bank-Location number.

    Warning: *If you select an existing Style and confirm writing, the older Style is deleted and replaced by the new one. Save the Styles you don't want to lose to a storage device, before overwriting them.*
18. Touch OK to save the Style to the internal memory, or Cancel to delete any changes made in Style Record mode. When the "Are you sure?" message appears, touch OK to confirm, or Cancel to go back to the "Write Style" dialog box.

Event Edit: Filter

This page is where you can select the event types to be shown in the Event Edit page.



Turn On the filter for all event types you do not wish to see in the Event Edit page.

Note: *Some of the events are "ghosted", and non editable, since the corresponding events are not editable in a Style.*

Note/RX Noise

Notes and RX Noises.

Control — Control Change events. Only the following Control Change numbers are allowed with Styles.

Control function	CC# (Control Change Number)
Modulation 1	1
Modulation 2	2
Pan	10
Expression[(a)]	11
CC#12	12
CC#13	13
Ribbon	16
Damper	64
Filter Resonance	71
Low Pass Filter Cutoff	74
CC#80	80
CC#81	81
CC#82	82

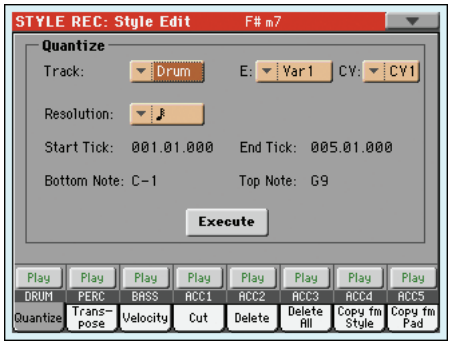
(a). Expression events cannot be inserted at the starting Position (001.01.000). An Expression value is already among the default "header" parameters of the Style Element.

Tempo/Meter — Tempo and Meter (time signature) changes (Master Track only).

Pitch Bend — Pitch Bend events.

Style Edit: Quantize

The quantize function may be used to correct any timing mistake after recording, or to give the pattern a "groovy" feeling.



After setting the various parameters, touch Execute.

Track

Use this parameter to select a track.

All — All tracks selected.

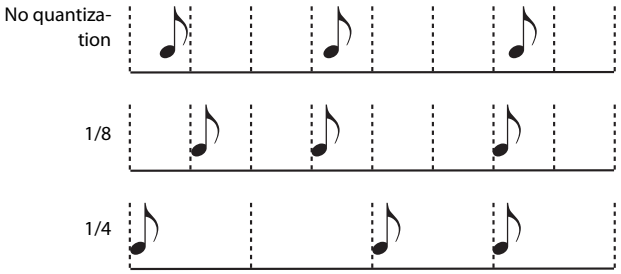
Drum…Acc5 — Selected track.

E / CV (Style Element/Chord Variation)

Use these parameters to select the Style Element and Chord Variation for editing.

Resolution

This parameter sets the quantization after recording. For example, when you select 1/8, all notes are moved to the nearest 1/8 division. When you select 1/4, all notes are moved to the nearest 1/4 division.



(1/32)… (1/4)

Grid resolution, in musical values. A "b…f" character added after the value means swing-quantization. A "3" means triplet.

Start / End Tick

Use these parameters to set the starting and ending points of the range to quantize.

If a Chord Variation is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

Bottom / Top Note

Use these parameters to set the bottom and top of the keyboard range to quantize. If you select the same note as the Bottom and

Top parameters, you can select a single percussive instrument in a Drum or Percussion track.

Note: *These parameters are available only when a Drum or Percussion track is selected.*

Execute

Touch this button to execute the operation set in this page.

Track status icon

Status of tracks. Touch this icon to change the status.

Play — Play status. The track can be heard.

Mute — Mute status. The track cannot be heard.

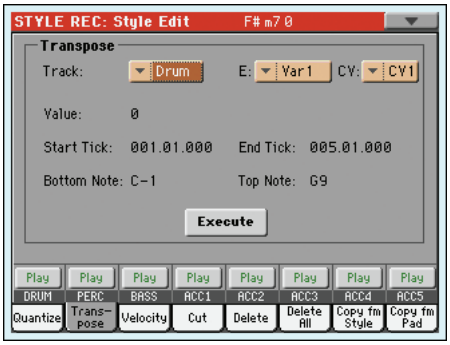
Track names

Under the buttons, a label for each track is shown.

Style Edit: Transpose

In this page you can transpose the selected track(s).

Note: *After transposing, please don't forget to readjust the "Key/Chord" parameter in the main page of the Style Record mode (see page 7).*



After setting the various parameters, touch Execute.

E / CV (Style Element/Chord Variation)

Use these parameters to select the Style Element and Chord Variation for editing.

Track

Use this parameter to select a track.

All — All tracks selected, apart for tracks set in Drum mode (like the Drum and Percussion tracks). The whole selected Chord Variation will be transposed.

Drum…Acc5 — Single selected track.

Value

Transpose value (±127 semitones).

Start / End Tick

Use these parameters to set the starting and ending points of the range to be transposed.

If a Chord Variation is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

Bottom / Top Note

Use these parameters to set the bottom and top of the keyboard range to be transposed. If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument in a Drum or Percussion track. Since in a Drum Kit each instrument is assigned to a different note of the scale, transposing a percussive instrument means assigning the part to a different instrument.

Execute

Touch this button to execute the operation set in this page.

Track status icon

Status of tracks. Touch this icon to change the status.

Play — Play status. The track can be heard.

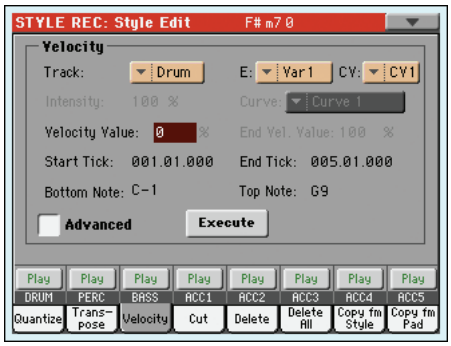
Mute — Mute status. The track cannot be heard.

Track names

Under the buttons, a label for each track is shown.

Style Edit: Velocity

In this page you can change the velocity (dynamics) value of notes in the selected track. An Advanced mode is available, allowing you to select a velocity curve for the selected range. This is useful to create fade-ins or fade-outs.



After setting the various parameters, touch Execute.

Note: *When an RX Sound is assigned to the track being edited, the resulting sound may change, since this kind of Sounds is made of several different layers triggered by different velocity values.*

Also, a fade-out may result in the level "jumping" up next to the zero, since a higher-level layer may be selected by low velocity values.

Track

Use this parameter to select a track.

All — All tracks selected. The velocity for all notes of the whole selected Chord Variation will be changed.

Drum…Acc5 — Selected track.

E / CV (Style Element/Chord Variation)

Use these parameters to select the Style Element and Chord Variation for editing.

Value

Velocity change value (±127).

Start / End Tick

Use these parameters to set the starting and ending points of the range to be modified.

If a Chord Variation is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

Bottom / Top Note

Use these parameters to set the bottom and top of the keyboard range to be modified. If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument in a Drum or Percussion track.

Advanced

When this checkbox is checked, the "Intensity", "Curve", "Start Velocity Value" and "End Velocity Value" parameters can be edited.

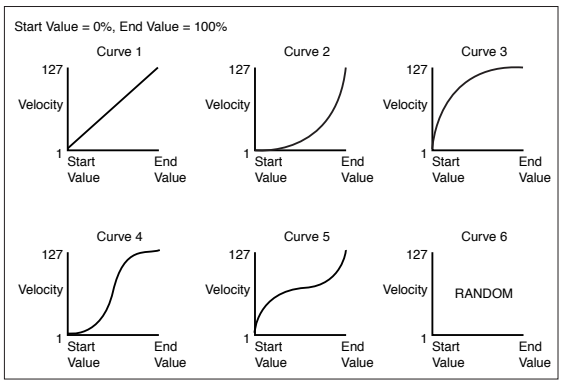
Intensity

(Only available in Advanced mode). Use this parameter to specify the degree to which the velocity data will be adjusted toward the curve you specify in "Curve".

0…100% Intensity value. With a setting of 0 [%], the velocity will not change. With a setting of 100 [%], the velocity will be changed the most.

Curve

(Only available in Advanced mode). Use this parameter to select one of the six curves, and to specify how the velocity will change over time.



Start / End Vel. Value

(Only available in Advanced mode). Velocity change at the starting and ending ticks of the selected range.

0…100 Velocity change in percentage.

Execute

Touch this button to execute the operation set in this page.

Track status icon

Status of tracks. Touch this icon to change the status.

Play Play status. The track can be heard.

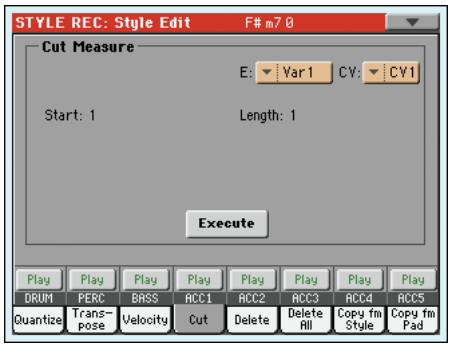
Mute Mute status. The track cannot be heard.

Track names

Under the buttons, a label for each track is shown.

Style Edit: Cut

This function lets you quickly delete a selected measure (or a series of measures) from the selected Chord Variation. All following events are moved back, to replace the cut measure(s).



After setting the various parameters, touch Execute.

E / CV (Style Element/Chord Variation)

Use these parameters to select the Style Element and Chord Variation for editing.

Start

First measure to be cut.

Length

Number of measures to be cut.

Execute

Touch this button to execute the operation set in this page.

Track status icon

Status of tracks. Touch this icon to change the status.

Play Play status. The track can be heard.

Mute Mute status. The track cannot be heard.

Track names

Under the buttons, a label for each track is shown.

Style Edit: Delete

This page is where you can delete MIDI events out of the Style. This function does not remove measures from the pattern. To remove whole measure, use the Cut function (see "Style Edit: Cut" on page 21)

After setting the various parameters, touch Execute.

E / CV (Style Element/Chord Variation)

Use these parameters to select the Style Element and Chord Variation for editing.

Track

Use this parameter to select a track.

All	All tracks selected. After deletion, the selected Chord Variation will remain empty.
Drum…Acc5	Selected track.

Event

Type of MIDI event to delete.

All	All events. The measures are not removed from the Chord Variation.
Note	All notes in the selected range.
Dup.Note	All duplicate notes. When two notes with the same pitch are encountered on the same tick, the one with the lowest velocity is deleted.
After Touch	After Touch events. ***Note:*** *This kind of data is automatically removed during recording.*
Pitch Bend	Pitch Bend events.
Prog.Change	Program Change events, excluding the bundled Control Change #00 (Bank Select MSB) and #32 (Bank Select LSB). ***Note:*** *This kind of data is automatically removed during recording.*
Ctl.Change	All Control Change events, for example Bank Select, Modulation, Damper, Soft Pedal…
CC00/32…CC127	Single Control Change events. Double Control Change numbers (like 00/32) are MSB/LSB bundles. ***Note:*** *Some CC data are automatically removed during recording. See the table on page 5 for more information on the allowed data.*

Start / End Tick

Use these parameters to set the starting and ending points of the range to delete.

If a Chord Variation is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

Bottom / Top Note

Use these parameters to set the bottom and top of the keyboard range to delete. If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument in a Drum or Percussion track.

Note: *These parameters are available only when the All or Note option is selected.*

Execute

Touch this button to execute the operation set in this page.

Track status icon

Status of tracks. Touch this icon to change the status.

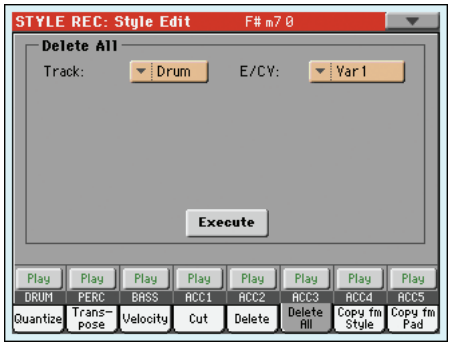
Play	Play status. The track can be heard.
Mute	Mute status. The track cannot be heard.

Track names

Under the buttons, a label for each track is shown.

Style Edit: Delete All

This function lets you quickly delete a selected Style Element or Chord Variation, or the whole Style.



After setting the various parameters, touch Execute.

Track

All	All tracks of the selected Style, Style Element or Chord Variation.
Drum-Acc5	Single track of the selected Style, Style Element or Chord Variation.

E / CV (Style Element/Chord Variation)

Use these parameters to select the Style Element and Chord Variation for editing.

All — All Style Elements, i.e. the whole Style. When E/Track=All and CV=All, the whole Style is deleted, and all parameters are set to the default status.

Var1…CountIn — Single Style Element.

V1-CV1…CI-CV2 — Single Chord Variation.

Execute

Touch this button to execute the operation set in this page.

Track status icon

Status of tracks. Touch this icon to change the status.

Play — Play status. The track can be heard.

Mute — Mute status. The track cannot be heard.

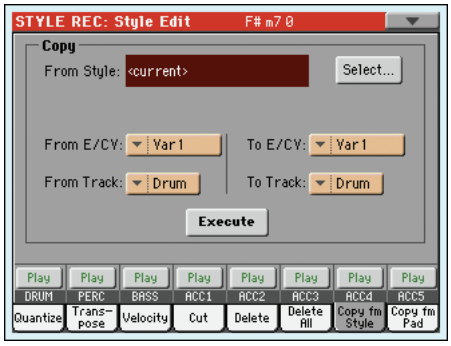
Track names

Under the buttons, a label for each track is shown.

Style Edit: Copy from Style

Here you can copy a track, Chord Variation or Style Element inside the same Style, or from a different one. Furthermore, you can copy a whole Style.

Warning: *The Copy operation deletes all data at the target location (overwrite).*



After setting the various parameters, touch Execute.

Note: *If you copy too many events on the same "tick", the "Too many events!" message appears, and the copy operation is aborted.*

Note: *When you copy over an existing Chord Variation, Program Change data is not copied, to leave the original Sounds unchanged for that Chord Variation.*

From Style

Choose this option to select the source Style to copy the track, Chord Variation or Style Element from. Touch the **Select** button to open the Style Select window and select the source Style.

From… To E/CV (Style Element/Chord Variation)

Use these parameters to select the source and target Style Elements or Chord Variations.

Note: *You can't copy from a Variation to a different Style Element (or vice-versa), because of their different structure.*

All — All Style Elements, i.e. the whole Style. You can't change the target, that is automatically set to All.

Var1…End2 — Single Style Element.

V1-CV1…E2-CV2 — Single Chord Variation.

From… To Track

Use this parameter to select the source and target track to copy. You can double a track, to strengthen a pattern.

All — All tracks of the selected Style, Style Element or Chord Variation.

Drum-Acc5 — Single track of the selected Style, Style Element or Chord Variation.

Execute

Touch this button to execute the operation set in this page.

Track status icon

Status of tracks. Touch this icon to change the status.

Play — Play status. The track can be heard.

Mute — Mute status. The track cannot be heard.

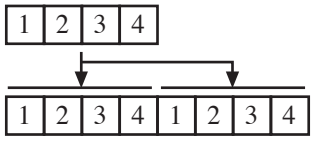
Track names

Under the buttons, a label for each track is shown.

Copying to a Chord Variation of a different length

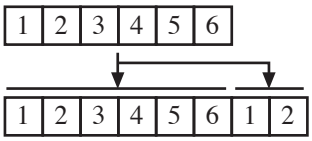
You can copy a Chord Variation to a different one of a different length. Just keep in mind the following:

- If the source length is a divider of the target length, the source Chord Variation will be multiplied to fit the target Chord Variation. For example, if the source is 4-measures long, and the target 8-measures, the source will be copied two times.



- If the source length is not a divider of the target length, the source Chord Variation will be copied for as many measures as can fit the target Chord Variation. For example, if the source is 6-measures long, and the target 8-measures,

the source will be copied once, then the first 2 measures will be copied to fit the remaining 2 measures.

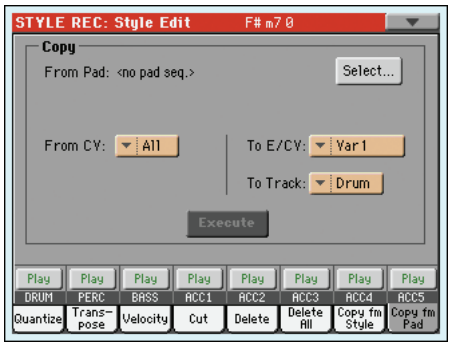


Note: *Avoid copying to a Chord Variation with a different meter (time signature), for example a 4/4 Chord Variation onto a 3/4 one.*

Style Edit: Copy from Pad

Here you can copy a Chord Variation from a Pad. Furthermore, you can copy a whole Pad.

Warning: *The Copy operation deletes all data at the target location (overwrite).*



After setting the various parameters, touch Execute.

Note: *If you copy too many events on the same "tick", the "Too many events!" message appears, and the copy operation is aborted.*

Note: *When you copy over an existing Chord Variation, Program Change data is not copied, to leave the original Sounds unchanged for that Chord Variation.*

From Pad

Choose this option to select the source Pad to copy the Chord Variation from. Touch the **Select** button to open the Pad Select window and select the source Pad.

From CV (Chord Variation)

Use this parameter to select the source Chord Variation.

All	All Chord Variations, i.e. the whole Pad. You can't change the target, that is automatically set to All.
CV1…CV6	Single Chord Variation.

To CV (Chord Variation)

Use this parameter to select a target Chord Variation inside the current Style.

CV1…CV6	Target Chord Variation. Automatically set to All if the "From CV" parameter is also set to All.

To Track

Use this parameter to select the target track to copy.

All	All tracks of the selected Style, Style Element or Chord Variation.
Drum-Acc5	Single track of the selected Style, Style Element or Chord Variation.

Execute

Touch this button to execute the operation set in this page.

Style Element Track Controls: Sound/Expression

In this page you can assign a different Sound to each track of the selected Style Element. Each Style Element can have different Sound; after saving the new Style, please don't forget to check the "Original Style Sounds" parameter in the Style Play mode (see page 114), to let the Style select the Sound bypassing the Style Performance settings.

In this page you can also check and modify the Expression (CC#11) value for each of the Style Element tracks. This lets you reduce the relative level of a track in a single Style Element, without reducing the overall Volume of the Style. This is a very useful control, when you have different Sounds assigned to the same track in different Style Elements, and the internal level of these Sounds must be different.

When in this page, press the corresponding button on the control panel to select a Style Element (VARIATION1 … ENDING3).

To copy the settings of this page to another Style Element, use the "Copy Sound" and "Copy Expression" commands from the page menu (see "Copy Sounds dialog box" and "Copy Expression dialog box" starting from page 32).

Selected Track Info area

See "Selected track info area" on page 7 for detailed information.

Sounds area

See "Sounds area" on page 9 for detailed information.

Expression area

Expression Monitor

You can use these indicators to check if CC#11 (Expression) messages are contained in a track. Expression messages contained in a track can vary the volume of the track. It is very difficult to catch them out – unless you carefully read all the events in the Event Edit page.

This monitor should help you keeping track of them, and let you access Event Edit only on the tracks containing the messages. Press the START/STOP button to start playback, and look at the indicators. When one of them lights up, you can enter Event Edit on the corresponding track, and edit or remove the Expression messages.

Expression

▸STYLE

Use these knobs to set the Expression (CC#11) value for the corresponding track. This value can be seen at the beginning of the Event Edit list (see "Event Edit: Event Edit" on page 17).

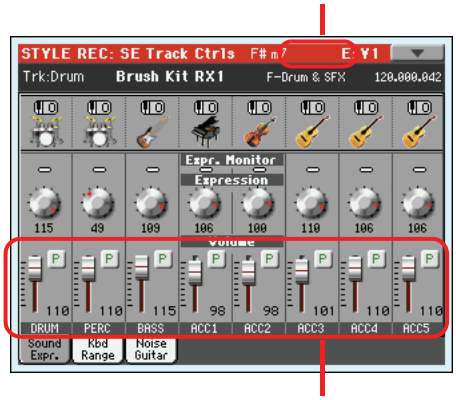
Different Expression values can be defined for each Style Element. This way, you can set a different volume in each Style Element, relative to the general Volume value set in the Style Header.

Expression leveling

You can quickly and easily adjust the Expression level of all tracks in a Style Element (Variation, Intro…). This allows for a more precise control over the volume level of all Style Element.

1. While in this page, select one of the Style Elements by pressing its button in the control panel.

Selected Style Element



Expression level

2. Keep the SHIFT button pressed, and move any Assignable Slider to proportionally change the Expression value of all Style Variation tracks.
3. Release the SHIFT button.
4. Repeat the above operation with all the desired Style Elements.

***Note:** A track's volume may be changed by an Expression event contained in a track. To check if any of these events exist in a track, let the Style Element play and look at the Expression Monitor in this same page. If one or more Expression events are found, go to the Event Edit page and delete it (or them)*

Volume area

Use these controls to set the volume and status of each track. See page 9 for more information.

The Volume value is the same for the whole Style. Use the Expression controls to adjust the relative balance between tracks in each Style Element.

Style Element Track Controls: Keyboard Range

The Keyboard Range automatically transposes any pattern note that would otherwise play too high or too low in pitch, compared to the original acoustic instrument, when transposed by the arranger. This will result in a more natural sound for each accompaniment instrument.

For example, the lower limit for a guitar is E2. If you play a chord under the E2, the transposed pattern could exceed this limit, and sound unnatural. A Bottom limit set to E2 for the guitar track will solve the problem.

Different Keyboard Range values can be set for each Style Element.

Note: *The Keyboard Range is ignored while recording. The selected track can play on the full range of the keyboard.*

When in this page, press the corresponding button on the control panel to select a Style Element (VARIATION1 … ENDING3).

To copy the settings of this page to another Style Element, use the "Copy Keyboard Range" command from the page menu (see "Copy Key Range dialog box" on page 33).

Top/Bottom

▸STYLE

Use these parameters to set the bottom and top of the keyboard range for the corresponding track of the current Style Element.

Volume area

Use these controls to set the volume and status of each track. See page 9 for more information.

Style Element Track Controls: Noise/Guitar

The Noise/Guitar page is where you can set the RX Noise level and the 'human feel' of Guitar tracks.

RX Noise

▸STYLE

Use these controls to adjust the volume of RX Noises in the corresponding tracks. This control applies to all types of tracks (provided the Sound includes RX Noises).

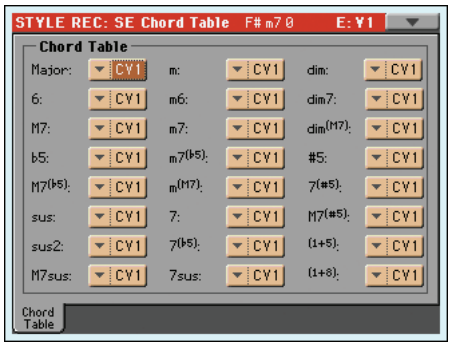
Humanize GTR

▸STYLE

Use these controls to apply a random value to the position, velocity and length of notes of Guitar tracks (see "Track Type" on page 27). This control has no effect on other types of track.

Style Element Chord Table: Chord Table

This is the page where you can assign a Chord Variation to each of the most important recognized chord. When a chord is recognized, the assigned Chord Variation will be automatically selected by the arranger to play the accompaniment.



When in this page, press the corresponding button on the control panel to select a Style Element (VARIATION1 … ENDING3).

Chord / Chord Variation

▸STYLE

Use these parameters to assign a Chord Variation to each of the most important chords.

Style Track Controls: Type/Trigger/Tension

In this page you can set the Mode, Retrigger mode for the Style tracks, and activate/deactivate the Tension for the Accompaniment tracks.

When in this page, press the corresponding button on the control panel to select a Style Element (VARIATION1 … ENDING3).

Track Type

▸STYLE

Use this parameter to set the type of the corresponding track.

Drum — Drum track. This type of track is not transposed by the arranger, and is used for Drum Kits made of Drum sounds. It can be affected by the Drum Mapping of the Style Play mode (see "Drum Mapping (Var.1…Var.4)" on page 134).

Perc — Percussion track. This type of track cannot be transposed, and is used for Drum Kit made of Percussion sounds. It is NOT affected by the Drum Mapping.

Bass — Bass track. This type of track always plays the root when changing chord.

Acc — Accompaniment track. This type of track can be used freely, for melodic or harmonic accompaniment patterns.

Gtr — Guitar track. This type of track uses Guitar Mode to create guitar strumming (see "Main page - Guitar Mode" on page 10). When this type is selected, the "Tension" parameter can no longer be edited.

Trigger Mode

▸STYLE

This setting lets you define how Bass and Acc-type tracks are retriggered when the chord is changed.

Off — Each time you play a new chord, current notes will be stopped. The track will remain silent until a new note will be encountered in the pattern.

Rt — (Retrigger) The sound will be stopped, and new notes matching the recognized chord will be played back.

Rp — (Repitch) New notes matching the recognized chord will be played back, by repitching notes already playing. There will be no break in the sound. This is very useful on Guitar and Bass tracks.

Tension

▸STYLE

Tension adds notes (a 9th, 11th and/or 13th) that have actually been played to the accompaniment, even if they haven't been written in the Style pattern. This parameter specifies whether or not the Tension included in the recognized chord will be added to the Acc-type tracks.

On — The Tension will be added.

Off — No Tension will be added.

Import: Import Groove

The Import Groove function allows the loading of MIDI Grooves (".GRV" files) generated by the Slice function (in the "Time Slice" page of the Sampling modem see page 85). By importing these data to a track, and assigning the Sound based on the sliced samples to the same track, you can play the original audio groove, and freely change its tempo.

Note: *After importing a groove generated by a melody line (not by a percussive groove), the imported groove and samples will not be transposed together with the other Style tracks. Audio data cannot be transposed by the arranger.*

Note: *Please execute the Import Groove operation before turning the instrument off. All ".GRV" files generated by a Time Slice operation are deleted when turning the instrument off.*

From

Use this parameter to select one of the MIDI Groove patterns (".GRV" files) generated when saving data after a Time Slice operation.

To E/CV (Style Element/Chord Variation)

Use this parameter to select the target Style Element and Chord Variation.

To Track

Use this parameter to select the target track inside the selected Chord Variation. **The Percussion track is usually suggested,** since the Drum track is still suitable for standard Drum Kit sounds (count-in, break etc.). After importing the MIDI Groove pattern, assign the Sound, to which the sliced samples are assigned, to the track playing the MIDI Groove pattern.

Import: Import SMF

The Import SMF function allows you to import MIDI data from a Standard MIDI File (SMF) created on your preferred external sequencer, and transform them in a Chord Variation.

Note: *You cannot use this function to import data from any generic Song. The Standard MIDI File to be imported must be programmed as if it was one of Pa3X's Chord Variations.*

When importing an SMF, parameters like CV Length, Meter, Tempo Changes, Program Changes and Expression are recognized. These parameters will be imported as the header of the Style Element containing the Chord Variation, provided the "Initialize" parameter is checked, or the Style Element is empty.

Hint: *It is a good idea to check the "Initialize" parameter when importing the first Chord Variation of a Style Element, and uncheck it when importing the following Chord Variations.*

• Sounds assigned to each track can be imported, provided the Program Change, Bank Select MSB and LSB events are on the first 'tick' of the SMF. These data are loaded in the Style Element's header, and not as Sounds assigned to the Style Performance.

Note: *Sounds in the Style Element header can be overridden by Sounds assigned to the Style Performance, by checking the "Original Style Sound" parameter in the main page of the Style Play mode (Style Track view).*

• If the above data was not found on the first 'tick' of the imported SMF, Sounds must be manually assigned to each track. You can do this in the "Record 1" or "Record 2", or the "Sound/Expression" page of the Style Record mode,.

• Key/Chord, Chord Table, Expression, and any other Style Variation parameter, must be manually programmed in the relevant Style Record pages.

• The starting Tempo, and each track's Volume, must be programmed as Style Performance data, and then saved in the Style Performance.

• Meter (time signature) Change is not allowed, therefore not recognized.

• The Chord Variation length is the same as the imported SMF. You can change length by changing the value of the CV Length parameter, on the main page of the Style Record mode.

Hint: *If a note extends beyond the last measure of the Chord Variation, an additional measure is appended (for example, if a note extends after the end of the fourth measure in a 4-measure pattern, a 5-measure Chord Variation will be generated). If so, change the CV Length value to reset the Chord Variation length. The exceeding note will be cut, to fit the new pattern length.*

When programming a Chord Variation on an external sequencer, please assign each Style track to the correct MIDI channel, according to the following table.

Style Track	MIDI Channel
Bass	09
Drum	10
Percussion	11
Accompaniment 1	12
Accompaniment 2	13
Accompaniment 3	14
Accompaniment 4	15
Accompaniment 5	16

Note: *Only SMF in format 0 can be loaded.*

From Song

This is the name of the Standard MIDI File to be loaded. Touch the Select button to open the file selector, and select an ".SMF" file.

Select

Touch this button to open the file selector and load the SMF.

Initialize

Check this parameter if you want all settings of the target Style Element (i.e., Key/Chord, Chord Table, Sounds…) are reset when loading the SMF.

Hint: *It is a good idea to check the "Initialize" parameter when importing the first Chord Variation of a Style Element, and uncheck it when importing the following Chord Variations.*

To E/CV

Use this parameter to select a target Chord Variation.

Execute

After setting all parameters in this page, touch this button to import the Standard MIDI File into the target Chord Variation.

Importing an SMF separated by Markers into a Style

As an alternative to importing single Chord Variations, you can import a whole Style as an *SMF separated by Markers*, i.e., a single SMF containing all the Chord Variations (Variation 1, Variation 2, etc.) each one separated by a Marker (the same events used in Song Play mode).

1. While in this page, touch the Select button, and choose the Standard Midi File to be imported.
2. Keep the SHIFT button pressed.
3. Without releasing the SHIFT button, touch the Execute button in the display.
4. Release the SHIFT button.

When creating a new Style, we suggest to check the "Initialize" checkbox. Do not check it if the SMF you are loading was previously exported from a Style to be edited; in this case, it is very important to keep all the previous settings.

Style Tracks and MIDI Channels must be lined as in the previous table, as per Korg's standard Style format definition.

Note: *Tracks/MIDI Channels other than the above mentioned are ignored during the import procedure.*

For a list of MIDI events supported during the import operations, please see "List of recorded events" on page 5. If any, the following events are stripped off and automatically transferred to the Style Element header during the import procedure:

- Time signature (this event is mandatory)
- Control Change bundle #00-32 (Bank Select MSB/LSB)
- Program Change
- Control Change #11 (Expression)

Control Change 00, Control Change 32 and Program Change messages must be placed at the very beginning of each Chord Variation (tick 0).

Whenever they are not saved in the SMF, Program Change, Control Change 00, 11 and 32, can be still programmed in Style Record mode, by using the edit features available.

Warning: *Pa3X can only handle SMF format 0 (Zero). If you are in trouble importing your file, maybe your sequencer (or DAW) is exporting using a different format. Please refer to the software's user's manual.*

The naming structure for the Markers inside the SMF is "EnCVn", whose single components are shown in the following table:

Component	Meaning
E	Style Element ('v' = variation, 'i' = intro, 'f' = fill, 'e' = ending)
n	Style Element number ('1'~'4' for variations, '1'~'2' for all other style elements)
CV	Chord Variation ('cv' = chord variation – no other choices allowed)
n	Chord Variation number [1~6 for Variations, 1~2 for all others]

Warning: *It is mandatory not to use capital letters in Marker names. Some examples of* ***valid*** *names:*

'i1cv2' = Intro1 – Chord Variation 2

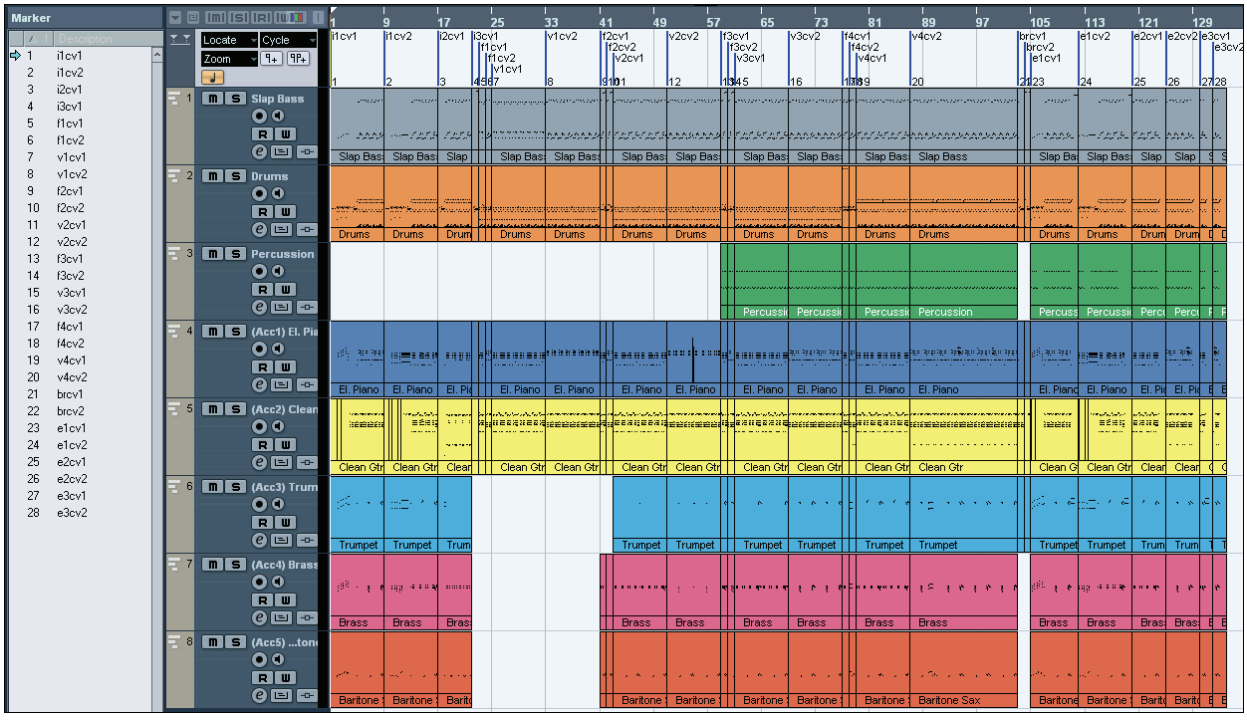
'v4cv3' = Variation 4 – Chord Variation 3

Examples of ***non accepted*** *names:*

'V1cv2', 'v1CV2', 'intro i1cv2', 'v1cv1 chorus'

The order of the Chord Variations inside the SMF is not relevant. They can be freely placed inside the SMF.

At the end of this page you can find a screenshot of a test file created in Steinberg Cubase, just as an example of how a *SMF separated by Markers* can look like. Considering analogies between actual workstations, it will not look much different in other applications like Logic, Digital Performer, Pro Tools or Sonar.



Export SMF

The Export SMF function allows you to export a Chord Variation as a Standard MIDI File (SMF), and edit it on your preferred external sequencer.

To Song

This (non editable) parameter shows the name of the Standard MIDI File to be generated. The (automatically assigned) name will be the same of the exported Chord Variation.

From E/CV

Use this pop-up menu to select one of the available Chord Variations from the current Style.

Execute

After selecting a Chord Variation, touch this button to export it as a Standard MIDI File. A standard file selector will appear. Select the target device and directory, then touch Save. After you touch Save, a dialog box appears, letting you assign a name to the file.

Exporting a Style as an SMF separated by Markers

As an alternative to exporting single Chord Variations to individual Standard MIDI Files, you can export a whole Style as an *SMF separated by Markers*, i.e., a single SMF containing all the Chord Variations (Variation 1, Variation 2, etc.) each one separated by a Marker (the same events used in Song Play mode).

1. While in this page, keep the SHIFT button pressed.
2. Without releasing the SHIFT button, touch the Execute button in the display.
3. Release the SHIFT button.
4. Assign a name to the Standard Midi File where to save the Style in edit.

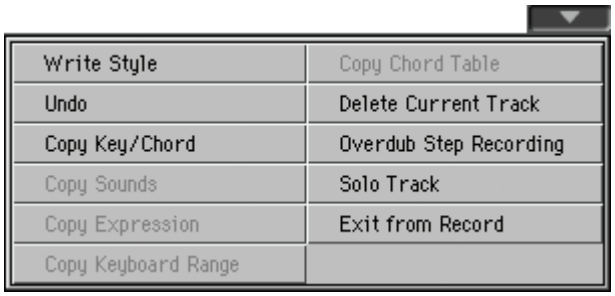
This operation creates, in the selected device, an SMF format 0 (Zero), containing all the MIDI data included in the selected Style, with each Chord Variation starting from a different Marker (named as per the naming convention explained in the Import section above).

Each Chord Variation will include, at the very beginning (tick 0), the following informations:

- Time signature
- Control Change bundle #00-32 (Bank Select MSB/LSB)
- Program Change
- Control Change #11 (Expression)

Page menu

Touch the page menu icon to open the page menu. Touch a command to select it. Touch anywhere in the display to close the menu without selecting a command.



Write Style

Select this command to open the Write Style dialog box, and save the Style to the internal memory.

See "Write Style dialog box" on page 31 for more information.

Undo

Only available in Record mode. While in Record mode, cancels the latest recorded data and restores the previous situation. Selected a second time, it restores recorded data again ("Redo" function).

Copy Key/Ch (Copy Key/Chord) button

Select this command to open the Copy Key/Chord dialog box, and copy Key/Chord settings of the currently selected track to all other tracks of the same Chord Variation, or to the whole Style.

See "Copy Key/Chord dialog box" on page 32 for more information.

Copy Sound

(Only available in some edit pages). While the Style Element Track Control edit section is selected, use this command to open the Copy Sound dialog box and copy all Sounds assigned to the current Style Element tracks to a different Style Element.

See "Copy Sounds dialog box" on page 32 for more information.

Copy Expression

(Only available in some edit pages). While the Style Element Track Control edit section is selected, use this command to open the Copy Expression dialog box and copy all Expression values assigned to the current Style Element tracks to a different Style Element.

See "Copy Expression dialog box" on page 32 for more information.

Copy Keyboard Range

(Only available in some edit pages). While the Style Element Track Control edit section is selected, use this command to open the Copy Keyboard Range dialog box and copy all Keyboard Range values for the current Style Element tracks to a different Style Element.

See "Copy Key Range dialog box" on page 33 for more information.

Copy Chord Table

Only available while in the Style Element Chord Table page. Select this command to open the Copy Chord Table dialog box (see "Copy Chord Table dialog box" on page 33).

Delete Current Track

(Only available in the Main Record pages). Select this command to delete the selected track.

Overdub Step Recording

(Only available in the Main Record pages). Select this command to open the Overdub Step recording window (see "Overdub Step Recording window" on page 33).

Solo Track

Select the track to be soloed, then check this item. You will hear only the selected track, and the 'Solo' warning will flash on the page header.

Uncheck this item to exit the Solo function.

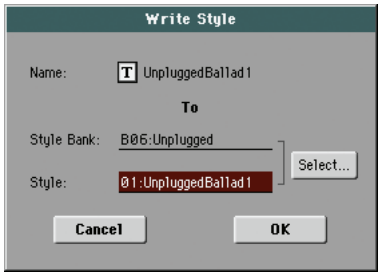
SHIFT Keep the SHIFT button pressed and touch one of the tracks to solo it. Do the same on a soloed track to deactivate the Solo function.

Exit from Record

Select this command to exit from Record without saving changes to the Style.

Write Style dialog box

Open this window by choosing the Write Style item from the page menu. Here you can save the recorded or edited Style to memory, by choosing either a User or Favorite Style bank.



Parameters saved in the Style are marked with the ▸STYLE symbol through the user's manual.

Name ▸STYLE

Name of the Style to be saved. Touch the T (Text Edit) button next to the name to open the Text Edit window.

Style Bank

Target bank of Styles. Each bank corresponds to one of the STYLE SELECT buttons. Use VALUE controls to select a different bank.

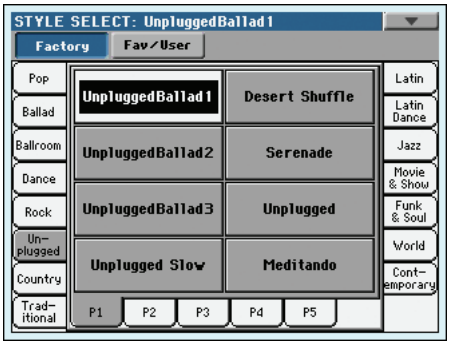
Style

Target Style location in the selected bank. Use VALUE controls to select a different location.

Note: *A User or Favorite Style is usually prompted when writing a Style. However, you can overwrite a Factory Style, when the "Factory Style and Pad Protect" parameter is left unchecked (see page 236).*

Select… button

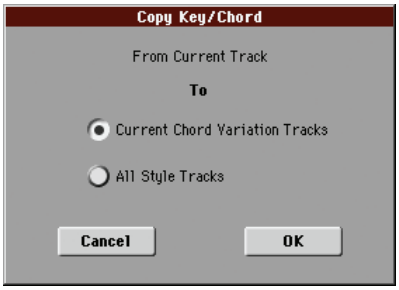
Touch this button to open the Style Select window, and select a target location.



While in the Style Select window, use the buttons on top of the window to select either the User or the Favorite banks.

Copy Key/Chord dialog box

Open this window by choosing the Copy Key/Chord item from the page menu. Here you can copy Key/Chord settings of the currently selected track to all other tracks of the same Chord Variation, or to the whole Style. This function is useful to speed-up pattern programming, and to avoid having different tracks in different keys within the same Chord Variation.



Current Chord Variation Tracks

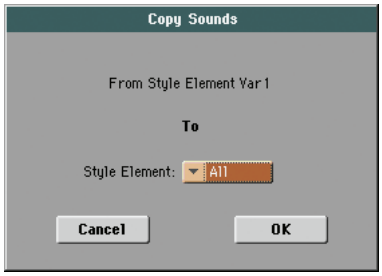
The Key/Chord of the current track will be copied to all tracks of the current Chord Variation.

All Style Tracks

The Key/Chord of the current track will be copied to all tracks of the Style (i.e., all Chord Variations).

Copy Sounds dialog box

Open this window by choosing the Copy Sounds item from the page menu. Here you can copy all Sounds assigned to the current Style Element tracks to a different Style Element.



From Style Element

Non editable. Currently selected Style Element.

To Style Element

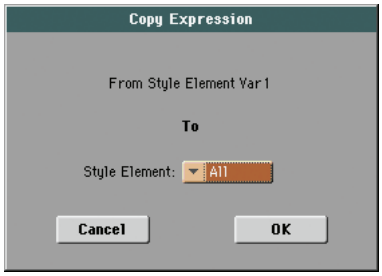
Target Style Element.

All — Settings will be copied to all Style Element of the Style in edit.

Var1…CountIn — Single Style Element where to copy settings to.

Copy Expression dialog box

Open this window by choosing the Copy Expression item from the page menu. Here you can copy all Expression values assigned to the current Style Element tracks to a different Style Element.



From Style Element

Non editable. Currently selected Style Element.

To Style Element

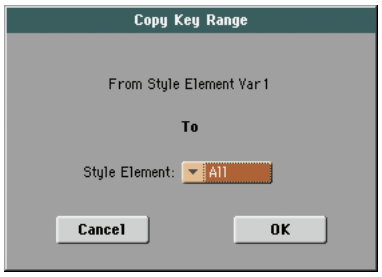
Target Style Element.

All — Settings will be copied to all Style Element of the Style in edit.

Var1…CountIn — Single Style Element where to copy settings to.

Copy Key Range dialog box

Open this window by choosing the Copy Keyboard Range item from the page menu. Here you can copy all Keyboard Range values for the current Style Element tracks to a different Style Element.



From Style Element

Non editable. Currently selected Style Element.

To Style Element

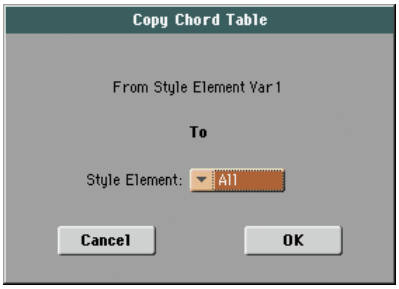
Target Style Element.

All — Settings will be copied to all Style Element of the Style in edit.

Var1…CountIn — Single Style Element where to copy settings to.

Copy Chord Table dialog box

Open this window by choosing the Copy Chord Table item from the page menu. Here you can copy the Chord Table of the current Style Element to a different Style Element.



To Style Element

Target Style Element.

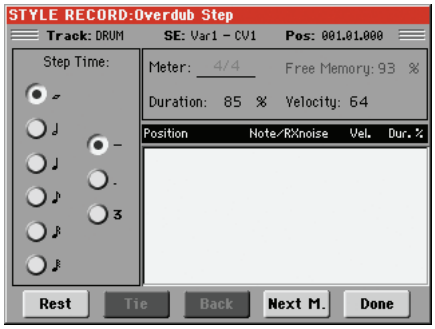
All — Settings will be copied to all Style Element of the Style in edit.

Var1…CountIn — Single Style Element where to copy settings to.

Overdub Step Recording window

The Step Record allows you to create a new Style by entering single notes or chords to each track, by playing them on the keyboard one at a time, with no need to play on time. This is very useful when transcribing an existing score, or needing a higher grade of detail, and is particularly suitable to create drum and percussion tracks.

To access this page, select the "Overdub Step Recording" command from the page menu.



Track (Selected track)

Name of the selected track in record.

DRUM…ACC5 — Style track.

SE (Selected Style Element)

See "Element (Style Element)" on page 6.

CV (Selected Chord Variation)

See "Chord Var (Chord Variation)" on page 6.

Pos (Position)

This is the position of the event (note, rest or chord) to be inserted.

Event list

Previously inserted events. You may delete this event, and set it in edit again, by touching the Back button.

Step Time values

Length of the event to be inserted.

… — Note value.

Standard (–) — Standard value of the selected note.

Dot (.) — Augments the selected note by one half of its value.

Triplet (3) — Triplet value of the selected note.

Meter

Meter (time signature) of the current measure. This parameter cannot be edited. You can set the Meter in the main page of the Style Record mode, before actually starting recording (see step 6 on page 14 for more information).

Free Memory

Remaining memory for recording.

Duration

Relative duration of the inserted note. The percentage is always referred to the step value.

25%	Staccatissimo.
50%	Staccato.
85%	Ordinary articulation.
100%	Legato.

Velocity

Set this parameter before entering a note or chord. This will be the playing strength (i.e., velocity value) of the event to be inserted.

Kbd	Keyboard. You can select this parameter, by turning all counter-clockwise the dial. When this option is selected, the playing strength of the played note is recognized and recorded.
1…127	Velocity value. The event will be inserted with this velocity value, and the actual playing strength of the note played on the keyboard will be ignored.

Rest

Touch this button to insert a rest.

Tie

Touch this button to tie the note to be inserted to the previous note.

Back

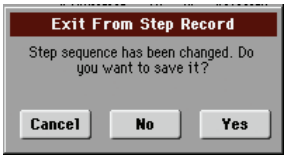
Goes to the previous step, erasing the inserted event.

Next M. (Next Measure)

Goes to the next measure, and fills the remaining space with rests.

Done

Exits the Step Record mode. If you have inserted some notes, a dialog box appears, asking you to either cancel, discard or save the changes.



If you touch, Cancel, exit is canceled, and you can continue editing. If you choose No, changes are not saved, and the Step Record window is closed. If you choose Yes, changes are saved, and the Step Record window is closed.

Pad Record mode

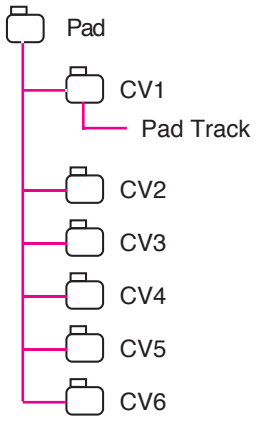
By entering the Pad Record mode, you can create your own Pads, or edit an existing Pad.

The Pad structure

A Pad is basically a single-track Style. Most of what applies to Style recording also applies to Pad recording.

There are two different categories of Pads:

- "Hit" Pads. While they are mostly used as non-transposing events, they can also be transposing notes or chords. Basically, they are single-note or single-chord Sequences (see below).
- "Sequence" Pads, i.e., complex single-track patterns, that can be transposed by playing different chords on the keyboard – exactly as a Style track. They are roughly equivalent to single-element, single-track, multi-chord variation Styles (see illustration).



Each Pad is made up of up to six smaller units, called **Chord Variations (CV)**. Each Chord Variation is made of a single track (the Pad track).

Exactly as with the Styles, when playing a chord in the chord recognition area, the corresponding Chord Variation is recalled. Recognized chords are associated to a Chord Variation by means of the **Chord Variation Table**. Each Pad contains a Chord Variation Table.

As with the Styles, the **Note Transposition Tables (NTT)** applies to the Pads.

The same differences between the different types of tracks applies (see "Track Type" on page 44).

What to record

Recording a Pad is a matter of recording a single track, inside a series of Chord Variations, inside the Pad itself.

You don't need to record all Chord Variations. It is often only needed to record just a Chord Variation.

Pattern data vs. track data

While the Pad Record mode is where you can create or edit music patterns for the Pad, track parameters (like Volume, Pan, FX settings…) have to be edited in Style Play mode.

- After editing Pad Track parameters in Style Play mode, save them to the Style Settings by selecting the "Write Current Style Settings" command from the page menu of the Style Play mode (see "Write Style Settings dialog box" on page 139 of the User's Manual).
- After editing Pad Track parameters in Style Play mode, save them to the Style Performance by selecting the Write Current Style Performance command from the page menu of the Style Play mode (see "Write Style Settings dialog box" on page 139 of the User's Manual).

Entering the Pad Record mode

To enter Pad Record mode, go to the Style Play mode and press RECORD. The Style/Pad Record Select window appears.

- Select **Record/Edit Pad** to select an existing Pad to edit. If it is a Factory Pad, you may not be able to save it at the original location (depending on the status of the "Factory Style and Pad Protect parameter in the Media > Preferences page); you will select a User Pad location instead.
- Select **Record New Pad** to start from a new, empty Pad. When finished recording, you will save the new Pad into a User Pad location. (Pads can be saved into Factory Pad locations only when the "Factory Style and Pad Protect" parameter is set to Off).

When you have finished recording or editing the Hit or Sequence Pad, please save it (see "Exit by saving or deleting changes" below) and exit the Pad Record mode.

Then, go to the Pad page of the Style Play or Song Play mode, assign the new Hit or Sequence to a Pad button, and adjust the various Pad settings (Volume, Pan, and FX Send… see "Pad/Switch: Pad" on page 133 of the User's Manual). Finally, save the Pad settings by selecting the "Write Current Style Performance" command from the page menu.

Note: While in Record mode, the footswitch and EC5 pedals are disabled. On the contrary, volume/expression-type pedals can be used.

Exit by saving or deleting changes

When finished editing, you can save your Pad in memory, or cancel any change.

• To save changes, select the "Write Pad" command from the page menu (see "Write Pad dialog box" on page 47).

• To cancel all changes, select the "Exit from Record" command from the page menu, or press the RECORD button, to exit from record and return to the main page of the Style Record mode.

Hint: *Save often while recording, to avoid accidentally losing your changes to the Pad.*

Listening to the Pad while in Record/Edit mode

While you are in Pad Record or Pad Edit mode, you can listen to the selected Chord Variation. To select a Chord Variation, go to the Main page of the Record/Edit mode.

- When you are in the Main, Event Edit, Quantize, Transpose, Velocity, or Delete pages, you can listen to the selected Chord Variation. Press START/STOP to check how it works. Press START/STOP again to stop the playback.
- When you are in the Sounds/Expression, Keyboard Range, Chord Table, Trigger/Tension, Delete All, Copy, Style Element Controls or Style Control pages, you can listen to the whole Pad. Press START/STOP and play some chords to do your tests.

Note: *In this mode, the pattern is always played back in loop, even if the "Pad Type" parameter is set to "One Shot" (see page 44).*

Note: *While in Pad Record mode, the Fingered 3 Chord Recognition mode is automatically selected.*

Main page - Record 1

The Main - Record page of the Pad Record mode looks like a simplified version of the Main page of the Style Record mode, with just a single track to be recorded and no Style Elements to be chosen. The only addition is the "Pad Sync" parameter.

Please look at the "Style Record mode" chapter for more information on the various parameters. Only general information and differences with the Style Record mode are described here.

Recording parameters area

Chord Var (Chord Variation)

This parameter lets you select one of the six available Chord Variations (CV1 … CV6) for editing or recording.

Note: *When this parameter and the assigned value is in small letters (cv1…cv6), the Chord Variation is empty; when it is in capitals (CV1…CV6), it is already recorded.*

Resolution

Use this parameter to set the quantization during recording.

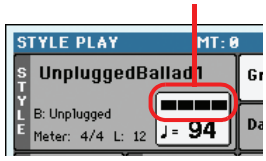
Pad Sync

▸PAD

This parameter allows you to set a synchronization mode for the Pad's pattern.

Off	No synchronization. The sequence will start as soon as you press the PAD button.
Continued	The pattern will start immediately, in sync with the arranger's or active player's tempo. Depending on the current position of the beat counter, it might not start from its very beginning; instead, it will continue from the current position. For example, if the arranger's or player's beat counter shows the third beat, and is playing tick 91, the Pad will start from its third beat, at tick 91.

The beat counter



This works exactly as if it was a Fill.

Beat — The sequence will start at the next beat, in sync with the arranger's or player's tempo. It will start from its very beginning (i.e., tick 1 or measure 1).

Rec Length (Recording Length)

▸PAD

This parameter sets the recording length (in measures) of the sequence. Its value is always equal to, or a divider of, the Chord Variation Length (see next parameter).

Warning: If you assign CV Length a value lower than Rec Length, the value of Rec Length is not immediately updated in the display. Therefore, you are still free of changing the value of CV Length, before the measures exceeding its value are deleted (see warning in "CV Length (Chord Variation Length)" below).

However, if you press START/STOP to begin recording, the real Rec Length value is changed to the new one, even if the display still shows the old value.

CV Length (Chord Variation Length)

▸PAD

This parameter sets the total length (up to 32 measures) for the selected Chord Variation. When playing a Style, this will be the length of the accompaniment pattern, when the chord corresponding to the Chord Variation is recognized on the keyboard.

Warning: If you reduce the Chord Variation Length after recording, any measure after the selected length will be deleted. Be very careful when setting the CV Length to a lower value after recording! If it happens, we suggest to exit from record without saving (see "Exit from Record" on page 46).

Metro (Metronome)

This is where you can set the metronome.

Off — No metronome click will be heard during recording. In any case, a one-bar precount will be played before starting recording.

On1 — Metronome on, with a one-bar precount before starting recording.

On2 — Metronome on, with a two-bar precount before starting recording.

Tempo

Select this parameter to use TEMPO controls to set the tempo.

Note: *This value will not be recorded, and will only be used for testing the pattern at various speeds while editing or recording.*

Hint: *You can always change the Tempo, when other parameters are selected, by keeping the SHIFT button pressed, and rotating the DIAL.*

Meter

▸PAD

This is the meter (time signature) of the sequence. You can edit this parameter only when the sequence is empty, i.e. before you begin recording anything.

Pad Track info area

This line lets you see the Sound assigned to the selected track.

Sound name

▸PAD

Sound assigned to the Pad track. The triangle means you can touch the name to open the Sound Select window, and select a different Sound.

Sound bank

▸PAD

Bank the selected Sound belongs to.

Program Change

▸PAD

Program Change number sequence (Bank Select MSB, Bank Select LSB, Program Change).

Tracks volume/status area

Octave Transpose

This (non editable) indicator shows the current octave transposition. To change this value use the OCTAVE TRANSPOSE buttons on the control panel.

While this value is not memorized with the Pad, the transposition is used during recording. For example, if you play a C4 and a +1 octave transposition is selected, a C5 is recorded.

Virtual slider

The virtual slider in the display shows the track's volume. To change the volume, touch the slider and use the VALUE controls to change the value (or touch and drag it in the display).

This value is not saved with the Pad, and is only used to test the Pad's volume during editing or recording.

Track status icons

Status of the track. Touch this icon to change the status.

 Play status. The track can be heard.

 Mute status. The track cannot be heard.

 Record status. After starting recording, the track will receive notes from the keyboard and the MIDI IN connector.

Key/Chord area

Key/Chord

▸PAD

This parameter pair allows you to define the track's original key and chord type, for the current Chord Variation. When playing the pattern back, this chord will be played back exactly as it was recorded, without any NTT processing (see below).

NTT Area

NTT Type/Table

▸PAD

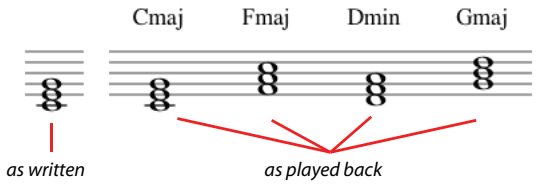
NTTs (Note Transposition Tables) are the sophisticated algorithms that allow Korg arrangers to convert recognized chords into musical patterns. The Note Transposition Table (NTT) determines how the arranger will transpose pattern notes, when a chord is recognized that does not exactly match the original chord of a Chord Variation. For example, if you only recorded a Chord Variation for the CMaj chord, when a CMaj7 is recognized on the keyboard the arranger must transpose some notes to create the missing 7th.

Note: *These parameters cannot be selected with Drum, Percussion or Guitar tracks, and are therefore greyed out.*

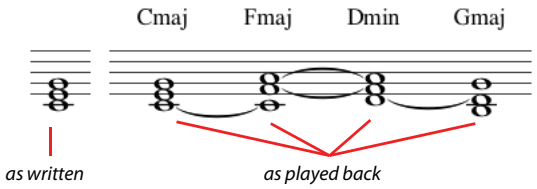
Note: *NTT parameters are separately programmed for each track of the Style Element.*

There are two general types of NTTs:

• When ***Parallel*** types are selected, notes are transposed inside the area set by the Wrap Around parameter. These tables are ideally suited to melody parts.



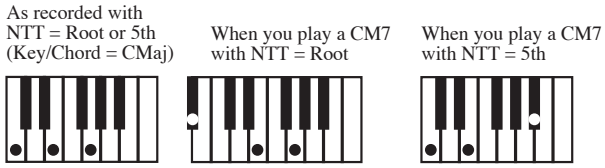
• When ***Fixed*** types are selected, the arranger moves as few notes as possible, making legato lines and chord changes more natural. They are ideally suited to chord tracks (strings, piano etc…).



Note: *To conform to Korg specifications, it is advisable to set the NTT to "No Transpose" on the Intro 1 and Ending 1.*

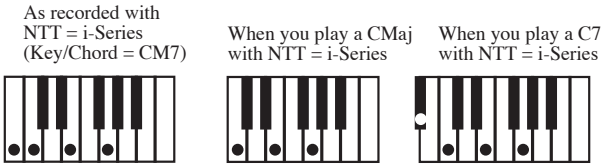
Parallel/Root The root note (in CMaj = C) is transposed to the missing notes.

Parallel/Fifth The 5th note (in CMaj = G) is transposed to the missing notes.



Parallel/i-Series

All original patterns must be programmed on the "Maj7" or "min7" chords. When loading old Korg i-Series Styles, this option is automatically selected.



Parallel/No Transpose

The chord is not modified, and is moved to the new key unchanged. The pattern plays exactly the recorded notes, and is moved to the new key as is. This is the standard setting of Intro 1 and Ending 1 in Korg's original Styles (where a chord progression is usually recorded, and should remain unchanged in any key).

Fixed/Chord This table moves as few notes as possible, making legato lines and chord changes more natural. It is ideally suited to chord tracks (strings, piano etc…). Contrary to the Parallel mode, the programmed chord is not transposed according to the Wrap Around parameter, but always stays around its original position, looking for common notes between the chords.

Fixed/No Transpose

The programmed notes can only be transposed by the Master Transpose. They are never transposed when chords are changed.

Delete Note button

Use this command to delete a single note or a single percussive instrument from a track. For example, to delete a snare, keep the D2 note (corresponding to the snare) pressed.

1. Touch the "Delete Note" button, and keep it pressed.
2. Press START/STOP to start the Pad.
3. When you reach the passage containing the note to be deleted, play the note on the keyboard. Keep it pressed, up to the last note to be deleted.
4. When finished, release the Delete button and the note to be deleted, and press START/STOP again to stop the Pad.

   Note: *If the note is at the beginning of the pattern, press the note before starting the Pad.*

Main page - Guitar Mode

While in the main page, and a Guitar track has been selected, touch the "Guitar Mode" tab to see this page. This is where you can access Guitar Mode programming:

Note: *To access this page, the Pad track must be of Guitar type (Pad Track Controls > Sound/Expression page, see "Track Type" on page 44). Otherwise, the Guitar Mode tab will remain grey (not selectable).*

Note: *When programming a Guitar track from an external sequencer, you must be sure the Guitar tracks is associated to the right channel. Go to the Global > MIDI > MIDI IN Channels page, and assign the corresponding Style track (usually Acc1 ~ Acc5) to the same channel of the Guitar track on the external sequencer. Then, go to the Style Record > Style Track Controls > Type/Tension/Trigger page, and set the track as a track of type "Gtr" (see "Track Type" on page 44).*

Guitar Mode allows to easily create realistic rhythm guitar parts, without the artificial, unmusical playing typical of MIDI programming of guitar parts. Just record a few notes, and you will end up with realistic rhythm guitar tracks, where each chord is played according to its real position on the guitar, and not generated by simply transposing a written pattern.

Recording overview

For an overview on the recording procedure, see the "Style Record mode".

Pad Record procedure

Recording a Pad is very similar to recording a Style. Please see the relevant chapter in the User's manual.

Edit menu

When pressing the MENU button while in Pad Record mode, the Pad Record Edit Menu will appear.

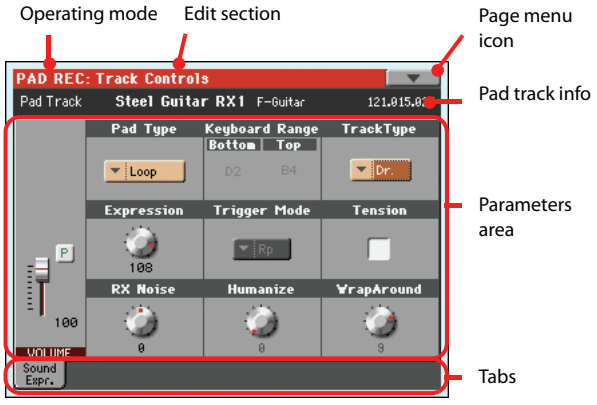
Note: *The Pad Edit pages are a simplified version of the Style Edit pages. See the User's manual for information on the various parameters.*

Note: *While the Pad is in play, you cannot access the Edit section pages from the main page (see page 36). Stop the playback before pressing MENU.*

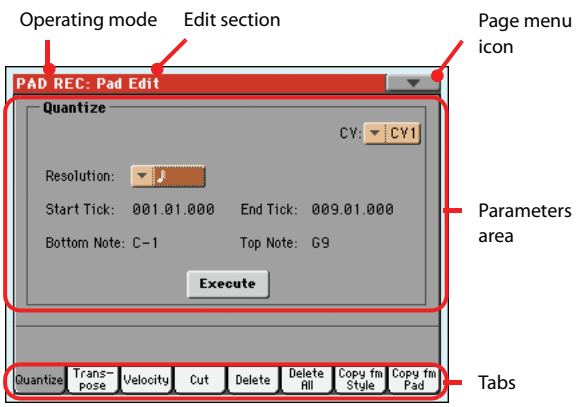
Note: *When switching from the Edit section pages (Quantize, Transpose, Velocity, Delete) to the other pages, or vice-versa, the Pad (if in play) is automatically stopped.*

Edit page structure

Most edit pages share some basic elements.



Other pages exhibit a slightly different structure.



Operating mode

This indicates that the instrument is in Pad Record mode.

Edit section

This identifies the current edit section, corresponding to one of the items of the edit menu (see "Edit menu" on page 39).

Page menu icon

Touch this icon to open the page menu (see "Page menu" on page 46).

Parameters area

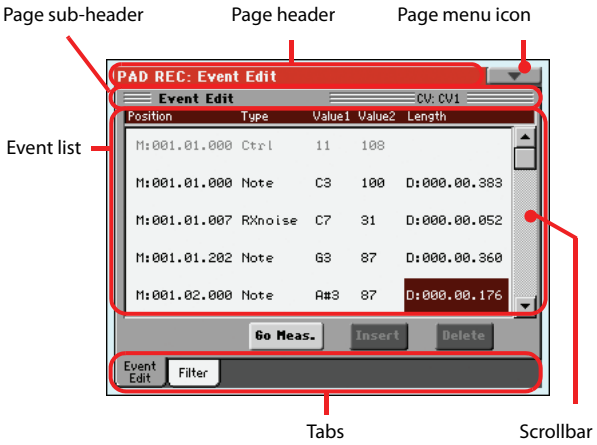
Each page contains various parameters. Use the tabs to select one of the available pages. For detailed information on the various types of parameters, see sections starting from page 40.

Tabs

Use tabs to select one of the edit pages of the current edit section.

Event Edit: Event Edit

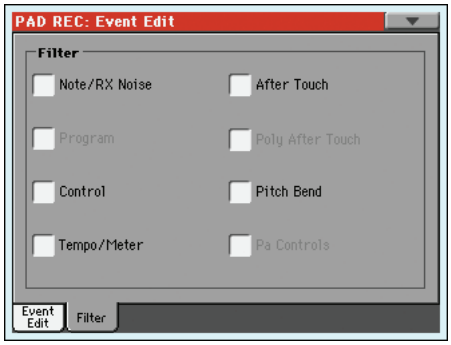
The Event Edit is the page where you can edit each single MIDI event of the selected Chord Variation. You can, for example, replace a note with a different one, or change its playing strength (i.e., velocity value).



This is very similar to the Style Record's Event Edit page. See "Event Edit: Event Edit" on page 17 for more information on the event editing procedure.

Event Edit: Filter

This page is where you can select the event types to be shown in the Event Edit page.



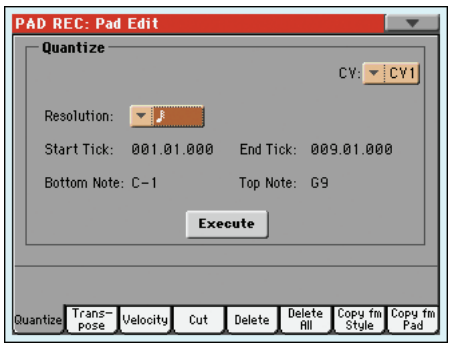
Turn On the filter for all event types you do not wish to see in the Event Edit page.

Note: *Some of the events are "ghosted", and non editable, since the corresponding events are not editable in a Pad.*

This is very similar to the Style Record's Event Edit Filter page. See "Event Edit: Filter" on page 19 for more information on the filter page.

Pad Edit: Quantize

The quantize function may be used to correct any timing mistake after recording, or to give the pattern a "groovy" feeling.



After setting the various parameters, touch Execute.

CV (Chord Variation)

Use this parameter to select the Chord Variation for editing.

Resolution

This parameter sets the quantization after recording.

Start / End Tick

Use these parameters to set the starting and ending points of the range to quantize.

Bottom / Top Note

Use these parameters to set the bottom and top of the keyboard range to quantize.

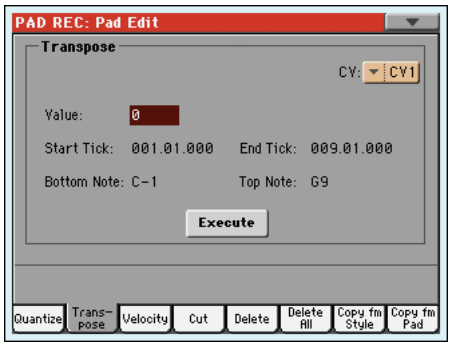
Execute

Touch this button to execute the operation set in this page.

Pad Edit: Transpose

In this page you can transpose the selected track(s).

Note: *After transposing, please don't forget to readjust the "Key/Chord" parameter in the main page of the Pad Record mode (see page 37).*



After setting the various parameters, touch Execute.

CV (Chord Variation)

Use this parameter to select the Chord Variation for editing.

Value

Transpose value (±127 semitones).

Start / End Tick

Use these parameters to set the starting and ending points of the range to be transposed.

Bottom / Top Note

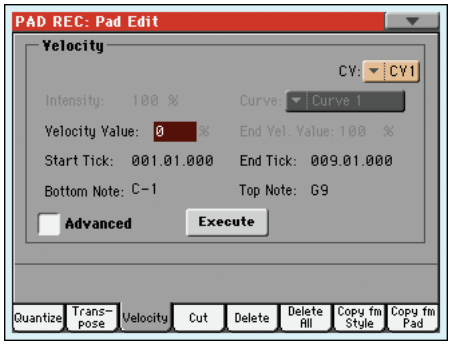
Use these parameters to set the bottom and top of the keyboard range to be transposed.

Execute

Touch this button to execute the operation set in this page.

Pad Edit: Velocity

In this page you can change the velocity (dynamics) value of notes in the selected track.



After setting the various parameters, touch Execute.

CV (Chord Variation)

Use this parameter to select the Chord Variation for editing.

Value

Velocity change value (±127).

Intensity

(Only available in Advanced mode). Use this parameter to specify the degree to which the velocity data will be adjusted toward the curve you specify in "Curve".

Curve

(Only available in Advanced mode). Use this parameter to select from six types of curve, and specify how the velocity will change over time.

Start / End Vel. Value

(Only available in Advanced mode). Velocity change at the starting and ending ticks of the selected range.

Start / End Tick

Use these parameters to set the starting and ending points of the range to be modified.

Bottom / Top Note

Use these parameters to set the bottom and top of the keyboard range to be modified.

Advanced

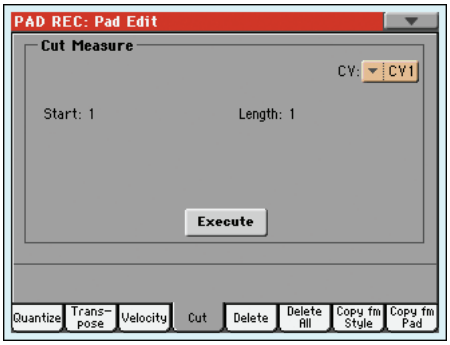
When this checkbox is checked, the "Intensity", "Curve", "Start Velocity Value" and "End Velocity Value" parameters can be edited.

Execute

Touch this button to execute the operation set in this page.

Pad Edit: Cut

This function lets you quickly delete a selected measure (or a series of measures) from the selected Chord Variation. All following events are moved back, to replace the cut measure(s).



After setting the various parameters, touch Execute.

CV (Chord Variation)

Use this parameter to select the Chord Variation for editing.

Start

First measure to be cut.

Length

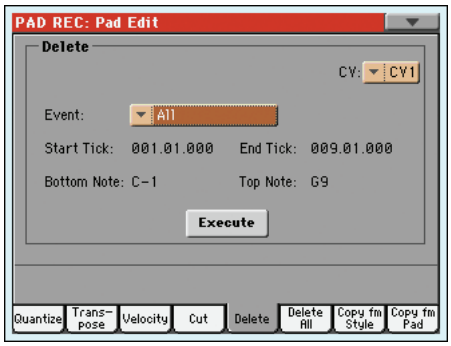
Number of measures to be cut.

Execute

Touch this button to execute the operation set in this page.

Pad Edit: Delete

This page is where you can delete MIDI events out of the Pad. This function does not remove measures from the pattern. To remove a whole measure, use the Cut function (see “Pad Edit: Cut” on page 42)



After setting the various parameters, touch Execute.

CV (Chord Variation)

Use this parameter to select the Chord Variation for editing.

Event

Type of MIDI event to delete.

All	All events. The measures are not removed from the Chord Variation.
Note	All notes in the selected range.
Dup.Note	All duplicate notes. When two notes with the same pitch are encountered on the same tick, the one with the lowest velocity is deleted.
After Touch	After Touch events. ***Note:*** *This kind of data is automatically removed during recording.*
Pitch Bend	Pitch Bend events.
Prog.Change	Program Change events, excluding the bundled Control Change #00 (Bank Select MSB) and #32 (Bank Select LSB). ***Note:*** *This kind of data is automatically removed during recording.*
Ctl.Change	All Control Change events, for example Bank Select, Modulation, Damper, Soft Pedal…
CC00/32…CC127	Single Control Change events. Double Control Change numbers (like 00/32) are MSB/LSB bundles. ***Note:*** *Some CC data are automatically removed during recording. See the table on page 5 for more information on the allowed data.*

Start / End Tick

Use these parameters to set the starting and ending points of the range to delete.

Bottom / Top Note

Use these parameters to set the bottom and top of the keyboard range to delete.

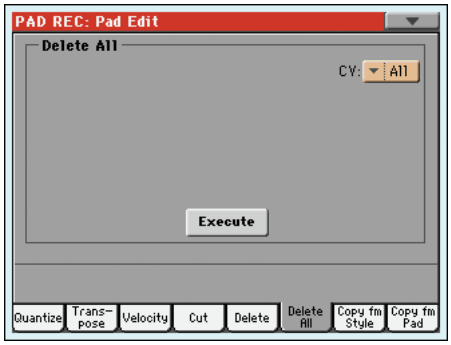
Note: *These parameters are available only when the All or Note option is selected.*

Execute

Touch this button to execute the operation set in this page.

Pad Edit: Delete All

This function lets you quickly delete a single Chord Variation, or the whole Pad.



After setting the various parameters, touch Execute.

CV (Chord Variation)

Use this parameter to select the Chord Variation to be deleted.

All — All Chord Variations, i.e. the whole Pad. After deletion, all parameters are set to the default status.

CV1…CV6 — Single Chord Variation.

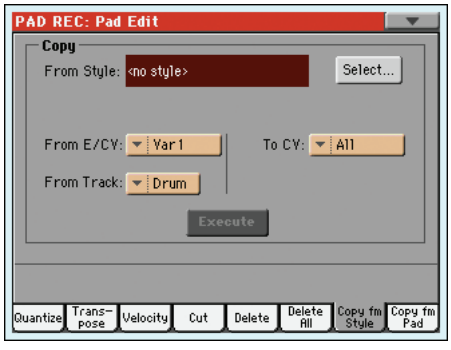
Execute

Touch this button to execute the operation set in this page.

Pad Edit: Copy from Style

Here you can copy a track from a Style, and transform it into a Pad pattern.

Warning: *The Copy operation deletes all data at the target location (overwrite).*



After setting the various parameters, touch Execute.

Note: *If you copy too many events on the same "tick", the "Too many events!" message appears, and the copy operation is aborted.*

Note: *When you copy over an existing Chord Variation, Program Change data is not copied, to leave the original Sounds unchanged for that Chord Variation.*

From Style

Choose this option to select the source Style to copy the track from. Touch the **Select** button to open the Style Select window and select the source Style.

From E/CV (Style Element/Chord Variation)

Use this parameter to select the source Style Element and Chord Variation.

Var1…End2 — A single Style Element, i.e., all Chord Variations.

V1-CV1…E2-CV2 — A single Chord Variation.

From Track

Use this parameter to select the source track to copy.

Drum-Acc5 — Single track of the selected Style Element or Chord Variation.

To CV (Chord Variation)

Use this parameter to select a target Chord Variation inside the current Pad.

CV1…CV6 — Target Chord Variation.

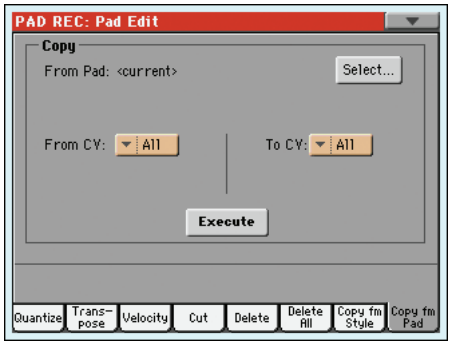
Execute

Touch this button to execute the operation set in this page.

Pad Edit: Copy from Pad

Here you can copy a Chord Variation from a different Pad. Furthermore, you can copy a whole Pad.

Warning: *The Copy operation deletes all data at the target location (overwrite).*



After setting the various parameters, touch Execute.

Note: *If you copy too many events on the same "tick", the "Too many events!" message appears, and the copy operation is aborted.*

Note: *When you copy over an existing Chord Variation, Program Change data is not copied, to leave the original Sounds unchanged for that Chord Variation.*

From Pad

Choose this option to select the source Pad to copy the Chord Variation from. Touch the **Select** button to open the Pad Select window and select the source Pad.

From CV (Chord Variation)

Use this parameter to select the source Chord Variation.

All	All Chord Variations, i.e. the whole Pad. You can't change the target, that is automatically set to All.
CV1…CV6	Single Chord Variation.

To CV (Chord Variation)

Use this parameter to select a target Chord Variation inside the current Pad.

CV1…CV6	Target Chord Variation. Automatically set to All if the "From CV" parameter is also set to All.

Execute

Touch this button to execute the operation set in this page.

Pad Track Controls: Sound/Expression

In this page you can assign a Sound to the Pad track, adjust its Volume (CC#07) and Expression (CC#11) values, and set various other parameters, like the Keyboard Range, Track Type, Trigger Mode, Tension and Wrap Around.

Sound/Bank ▸PAD

Sound assigned to the Pad track.

Pad Type ▸PAD

Use this parameter to decide if the Pad will play once or if it will loop.

Note: *While in Pad Record mode, the pattern is always played back in loop, even if this parameter is set to "One Shot".*

One Shot	When you press one of the PAD buttons, the corresponding Pad is only played once. This is useful for playing Hits or Sequences that must only play once.
Loop	When you press one of the PAD buttons, the corresponding Pad plays up to the end, then continues playing from the start. Press STOP in the PAD section to stop it playing. This is useful for playing cyclic sequences.

Expression ▸PAD

Use this knob to set the Expression (CC#11) value for the Pad track. This value can be seen at the beginning of the Event Edit list.

The Expression is useful to balance the Pad with the other Pads. For example, if you want the Pad you are recording to be mellower than the average, just lower the Expression value.

Volume

Use this slider to set the Volume (CC#07) value for the Pad track. This value is not saved with the Pad, and is only used to test the Pad's volume during editing or recording.

Keyboard Range ▸PAD

The Keyboard Range automatically transposes any pattern note that would otherwise play too high or too low in pitch, compared to the original acoustic instrument, when transposed by the arranger. This will result in a more natural sound for the Pad instrument.

Note: *The Keyboard Range is ignored while recording. The Pad track can play on the full range of the keyboard.*

Trigger Mode ▸PAD

(Not available if Track Type = Drum). This setting lets you define how Bass and Acc-type tracks are retriggered when the chord is changed.

Off	Each time you play a new chord, current notes will be stopped. The track will remain silent until a new note will be encountered in the pattern.
Rt	(Retrigger) The sound will be stopped, and new notes matching the recognized chord will be played back.
Rp	(Repitch) New notes matching the recognized chord will be played back, by repitching notes already playing. There will be no break in the sound. This is very useful on Guitar and Bass tracks.

Track Type ▸PAD

Use this parameter to set the type of the Pad track.

Drum	Drum track. This type of track is not transposed by the arranger, and is used for Drum Kits, or for tracks that you don't want to be transposed when playing a different chord.
Bass	Bass track. This type of track always plays the root when changing chord.
Acc	Accompaniment track. This type of track can be used freely, for melodic or harmonic accompaniment patterns.

Tension ▸PAD

Tension adds notes (a 9th, 11th and/or 13th) that have actually been played, even if they haven't been written in the Pad pattern. This parameter specifies whether or not the Tension included in the recognized chord will be added to an Acc-type track.

On	The Tension will be added.
Off	No Tension will be added.

RX Noise

▸PAD

Use these controls to adjust the volume of RX Noises in the corresponding tracks. This control applies to all types of tracks (provided the Sound includes RX Noises).

Humanize GTR

▸PAD

Use these controls to apply a random value to the position, velocity and length of notes of Guitar tracks (see "Track Type" on page 44). This control has no effect on other types of track.

Wrap Around

▸PAD

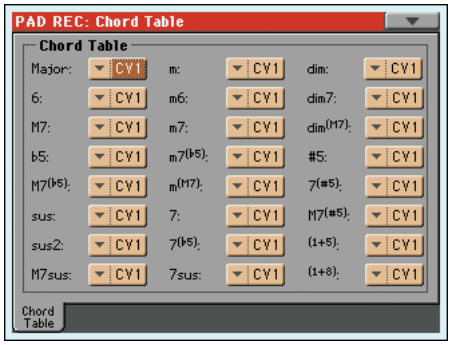
The wrap-around point is the highest register limit for the Pad track. The Pad pattern will be transposed according to the detected chord. If the chord is too high, the Pad track might play in a register that is too high, and therefore unnatural. If, however, it reaches the wrap-around point, it will be automatically transposed an octave lower.

The wrap-around point can be individually set in semitone steps up to a maximum of 12 semitones, relative to the chord root set in the main page of the Pad Record mode (see "Key/Chord" on page 37).

1…12 Maximum transposition (in semitones) of the track, referred to the original key of the Pad pattern.

Pad Chord Table

This is the page where you can assign a Chord Variation to each of the most important recognized chord. When a chord is recognized, the assigned Chord Variation will be automatically selected by the arranger to play the Pad track.



Chord / Chord Variation

▸PAD

Use these parameters to assign a Chord Variation to each of the most important chords.

Import: Import Groove

The Import Groove function allows the loading of MIDI Grooves (".GRV" files) generated by the Slice function (see "Time Slice" in the Sampling mode). By importing these data to the Pad track, and assigning the Sound based on the sliced samples to the same track, you can play the original audio groove, and freely change its tempo.

From

Use this parameter to select one of the MIDI Groove patterns (".GRV" files) generated when saving data after a Time Slice operation.

To CV (Chord Variation)

Use this parameter to select the target Chord Variation.

Import: Import SMF

The Import SMF function allows you to import MIDI data from a Standard MIDI File (SMF) created on your preferred external sequencer, and transform them in a Chord Variation.

When programming a Chord Variation on the external sequencer, please assign the Pad track to the MIDI channel #10.

Note: *Only SMF in format 0 can be loaded.*

From Song

This is the name of the Standard MIDI File to be loaded. Touch the Select button to open the file selector, and select an ".SMF" file.

Select

Touch this button to open the file selector and load the SMF.

Initialize

Check this parameter if you want all Pad settings (i.e., Key/Chord, Chord Table, Sound…) are reset when loading the SMF.

Hint: *It is a good idea to check this parameter when importing the first Chord Variation of the Pad, and uncheck it when importing the following Chord Variations.*

To CV

Use this parameter to select a target Chord Variation.

Execute

After setting all parameters in this page, touch this button to import the Standard MIDI File into the target Chord Variation.

Export: SMF

The Export SMF function allows you to export a Chord Variation as a Standard MIDI File (SMF), and edit it on your preferred external sequencer.

To Song

This (non editable) parameters shows the name of the Standard MIDI File to be generated. The (automatically assigned) name will be the same of the exported Chord Variation.

From CV

Use this pop-up menu to select one of the available Chord Variations from the current Pad.

Execute

After selecting a Chord Variation, touch this button to export it as a Standard MIDI File. A standard file selector will appear. Select the target device and directory, then touch Save.

Page menu

Touch the page menu icon to open the page menu. Touch a command to select it. Touch anywhere in the display to close the menu without selecting a command.

Write Pad

When done recording or editing a Pad, and you want to save the changes, select this command to open the Write Pad dialog box, and save the Pad to the internal memory.

See “Write Pad dialog box” on page 47 for more information.

Undo

Only available in the Main page of the Pad Record mode, and in some Pad Edit pages. While in Record mode, cancels the latest recorded data and restores the previous situation. Selected a second time, it restores recorded data again (“Redo” function).

Delete Pad Track

Only available in the Main page of the Pad Record mode. Select this command to delete the Pad track.

Overdub Step Recording

Only available in the Main page of the Pad Record mode. Select this command to open the Overdub Step recording window (see the Style Record chapter in the User’s Manual for more information).

Exit from Record

Select this command to exit from Record without saving changes to the Pad.

Write Pad dialog box

Open this window by selecting the Write Pad item from the page menu. Here you can save the recorded or edited Pad to memory.

Parameters saved in the Pad are marked with the ▸PAD symbol through the user's manual.

Name

▸PAD

Name of the Pad to be saved. Touch the T (Text Edit) button next to the name to open the Text Edit window.

Pad Bank

Target Pad bank. Only User banks can be selected.

Pad

Target Pad location in the selected bank. Use TEMPO/VALUE controls to select a different location.

Note: *A User Pad is usually prompted when writing a Pad. However, you can overwrite a Factory Pad, when the "Factory Style and Pad Protect" parameter is left unchecked (see page Media > Preferences).*

Select... button

Touch this button to open the Pad Select window, and select a target location.

Sound operating mode

The Sound operating mode is where you can listen to individual Sounds, and edit them.

To select a Sound, see the "Interface basics" chapter in the User's Manual.

In this mode, the selected Sound can always be played across the full keyboard range.

While in a different operating mode, you can easily select the Sound to be edited when switching to the Sound mode. Just select the track the Sound to be edited is assigned to, then keep the SHIFT button pressed while pressing the SOUND button.

Hint: *This is useful to see the Bank Select/Program Change numbers when programming a Song on an external sequencer.*

The MIDI channel

In Sound mode, Pa3X receives and transmits on the same channel of the Upper 1 track. If the Global channel is assigned, notes can be received also on this channel. See "MIDI: MIDI In Channels" on page 211 and "MIDI: MIDI Out Channels" on page 211 of the User's Manual for more information.

How to select oscillators

While in an edit page requiring an oscillator to be selected for editing, use the vertical row of buttons on the right (1…24 max) to select one of the available oscillators. The number of available oscillators depends on the "Oscillators Count" parameter (see page 52).

If you cannot see the desired oscillator, touch the scroll arrow, until the hidden oscillator is shown in the display.

When oscillators cannot be select, since the parameter contained in the current page are global and valid for the whole Sound, these buttons are greyed out, and cannot be selected.

Sounds, Drum Kits, Digital Drawbars

Pa3X features three different kinds of Sounds:

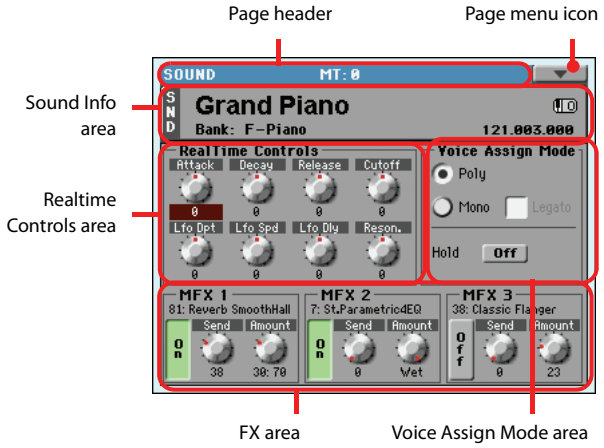
- Ordinary Sounds. These are normal instrument Sounds, like pianos, strings, basses.
- Drum Kits. These are drum and percussion kits, where each note of the keyboard is a different percussive instrument. You can find Drum Kits in the Drum & SFX and User Dk banks.
- Digital Drawbars. These are Sounds with a very complex structure, and a special usage. See "Digital Drawbars page" on page 50 for more information.

Before pressing MENU to enter the edit environment, you should select a Sound of the type you wish to edit or create.

Note: *Notes pointing to special Drum Kit features are marked by the* DRUM *icon.*

Main page

Here is the main page of the Sound operating mode.



Page header

This line shows the current operating mode and transposition.

Operating mode name

Name of the current operating mode.

Master transpose

Master transpose value in semitones. This value can be changed using the TRANSPOSE buttons on the control panel.

Page menu icon

Touch the page menu icon to open the menu. See "Page menu" on page 75 for more information.

Sound Info area

This is where basic details for the Sound are shown. Touch anywhere in this area to open the Sound Select window.

Sound name

Name of the Sound assigned to the corresponding Keyboard track.

Bank

Bank the current Sound belongs to.

Bank Select / Program Change sequence

Bank Select MSB / Bank Select LSB / Program Change numbers, in the form "CC00.CC32.PC".

CC00 — This section shows the value of the Control Change (CC) 00 message (or Bank Select MSB) for the selected Sound.

CC32 — This section shows the value of the Control Change (CC) 32 message (a.k.a. Bank Select LSB) for the selected Sound.

PC — This section shows the value of the Program Change (PC) message for the selected Sound. Values are in the standard 0-127 MIDI numbering format.

Note: *Some manufacturers could use the 1-128 numbering system; when connecting your Pa3X to an instrument of this kind, increment the PC value by 1 unit.*

Octave Transpose icon

Octave transpose value. Use the UPPER OCTAVE buttons to change this value.

Realtime Controls area

Controls in this area allow you to edit the main parameters of the Sounds assigned to each track. Touch one of them, and modify its value by using the VALUE DIAL controls (or moving your finger).

While in this page, Assignable Sliders are linked to the corresponding Realtime Controls (a.k.a. Easy Sound Edit parameters).

Assignable Slider	Realtime Control	Assignable Slider	Realtime Control
1	Attack	5	LFO Depth
2	Decay	6	LFO Speed
3	Release	7	LFO Delay
4	Cutoff	8	Resonance

Note: *All values refer to the original values of the Sound.*

Note: *When selecting the Write Sound command from the page menu, current parameter values, after editing the Realtime Controls, are saved with the Sound. After saving, Realtime Controls are set back to the default position.*

Note: *After selecting a different Sound, Realtime Control values are automatically set to zero.*

Attack — Attack time. This is the time during which the sound goes from zero (at the moment when you strike a key) to it's maximum level.

Decay — Decay time. Time to go from the final Attack level to the beginning of the Sustain.

Release — Release time. This is the time during which the sound goes from the sustaining phase, to zero. The Release is triggered by releasing a key.

Cutoff — Filter cutoff. This sets the sound brightness.

LFO Depth — Intensity of the Vibrato (LFO).

LFO Speed — Speed of the Vibrato (LFO).

LFO Delay — Delay time before the Vibrato (LFO) begins, after the sound starts.

Resonance — Use the Filter Resonance to boost the cutoff frequency.

Voice Assign Mode

Poly

The Sound will play polyphonically, allowing you play chords.

Mono

The Sound will play monophonically, producing only one note at a time.

Legato

This parameter is available when the Mono option is selected.

Note: *If "Legato" is On, certain multisamples or keyboard locations may produce an incorrect pitch.*

On — Legato is on. When multiple note-on's occur, the first note-on will retrigger the sound, and the second and subsequent note-on's will not retrigger.

When legato is on, multiple note-on's will not retrigger the voice. If one note is already on and another note is turned on, the first voice will continue sounding. The oscillator sound, envelope, and LFO will not be reset, and only the pitch of the oscillator will be updated. This setting is effective for wind instrument sounds and analog synth-type sounds.

Off — Legato is off. Notes will always be retriggered when note-on occurs.

When legato is off, multiple note-on's will retrigger the voice at each note-on. The oscillator sound, envelope, and LFO will be reset (and retriggered) according to the settings of the Sound.

Hold

Use this parameter to keep the notes sustained even after releasing the keys.

Note: *Please remember the Hold must be On before playing the note to be held.*

FX Area

In Sound mode, three Master effect processors (MFX1, MFX2 and MFX3) are available. As an alternative, an Insert effect can replace the MFX3 effect.

On/Off

Use this button to turn on or off the corresponding effect.

Selected Effect

Non editable. This shows the effect assigned to the corresponding FX processor. To select a different effect, see "Effects: "B" FX Config" on page 74.

Send

Use this knob to adjust the level of the dry sound sent to the corresponding effect.

Amount

Volume of the effect that is added to the dry (uneffected) signal.

Digital Drawbars page

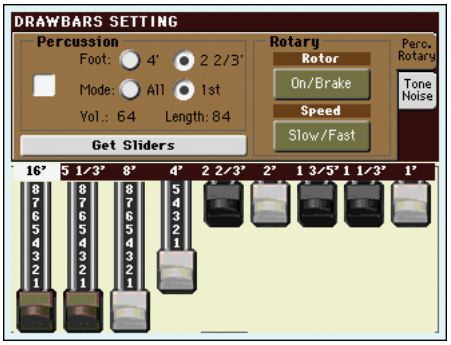
DIGITAL DRAWBARS are different from ordinary Sounds. Their parameters are not saved as a new Sound, but can be saved to a Performance. Therefore, when entering the Digital Drawbars page, the MENU button is disabled.

Note: *In Style Play and Backing Sequence mode, only a Digital Drawbar Sound is available for the Keyboard tracks, and one for the Style tracks. Save them to a Performance (see "Write Performance dialog box" on page 138 of the User's Manual).*

Note: *In Song Play mode, there is a Digital Drawbars Sound for the Keyboard tracks, one for Song tracks 1-8, another one for Song tracks 9-16.*

Note: *In Sequencer mode there is a Digital Drawbars Sound for Song tracks 1-8, one for Song tracks 9-16.*

When you select the DIGITAL DRAWBARS bank, the Digital Drawbar page appears, and the current setting is assigned to the selected track.

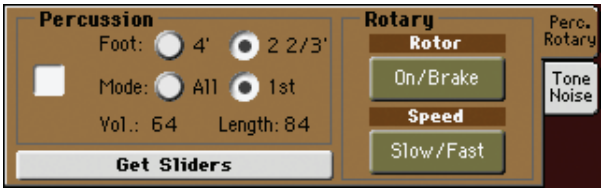


When entering this page, the SLIDER MODE button is automatically set to DRAWBARS, so you can use the sliders to change each foot volume. As an alternative, touch a footage and drag it on the display, or use the VALUE DIAL controls to change its value.

Each foot refers to the pipe length in a pipe organ, in which the sound is produced by pipes of different length. Longer pipes mean a lower sound; therefore, the 16' drawbar produces the lowest pitched sound, while the 1' drawbar produces the highest pitched sound.

Percussion/Rotary tab

Percussion adds a percussive sound to the attack segment of the organ sound. Rotary adds the effect of a rotating speaker.



On/Off

Use this parameter to turn percussion on or off.

Foot

Use this parameter to select a percussion register.

4'	Percussion added to the 4' foot.
$2^2/_3$'	Percussion added to the $2^2/_3$' foot.

Mode (Percussion Mode)

This parameters lets you decide if the percussion sound has to be triggered on the first note of a group of held notes, or to all notes.

All	The percussive attack is played on all notes of a chord.
1st	The percussive attack is played only on the first note of a chord or a group of held notes. Release all notes to trigger the percussion again.

Volume (Percussion Volume)

Level of the percussive sound.

0…99	Level.

Length (Percussion Length)

Decay speed of the percussive sound.

0…99	Decay time.

Rotor On/Brake

Touch this button to start or stop the rotating speaker.

Speed Slow/Fast

Touch this button to switch the rotating speaker's speed (from slow to fast, or vice-versa).

Note: *The "Rotor On/Brake" and "Speed Slow/Fast" parameters are only available when a Rotary effect has been assigned to one of the FX slots (effects #63 or #133).*

Get Sliders

Touch this button to get the current position of the physical sliders, and assign their value to the virtual slider.

Tone/Noise tab

Tone is the timbre of the sound. Noises are mechanical noises from the keyboard and the tonewheels.

Wave (Drawbar Wave)

Tone

Waveshape of the drawbars, producing the base timbre.

Mellow A mellow-sounding synthetic wave.

Hard A harder-sounding synthetic wave.

Leakage

Leakage from adjacent tonewheels, making the sound richer.

Key On

Noise of the keypress.

Key Off

Noise of the key release.

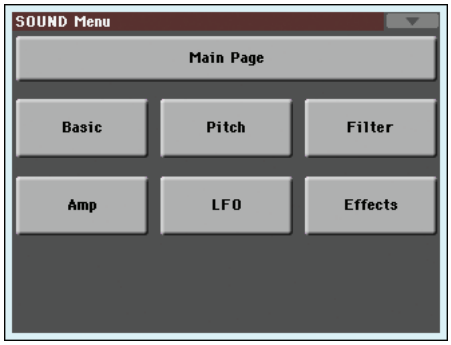
Edit menu

From any page, press the MENU button to open the Sound edit menu. This menu gives access to the various Sound edit sections.

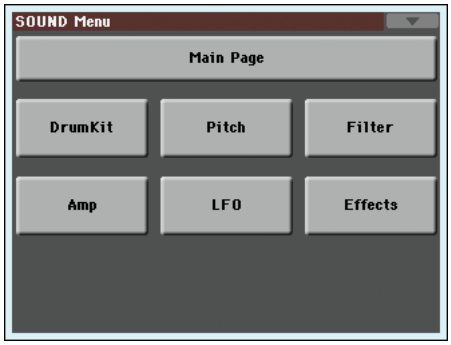
When in the menu, select an edit section, or press EXIT or SOUND to exit the menu and return to the main page. To return to the main page, you can also select the Main Page menu item.

When in an edit page, press EXIT or the SOUND button to return to the main page of the Sound operating mode.

- When an ordinary Sound is selected:



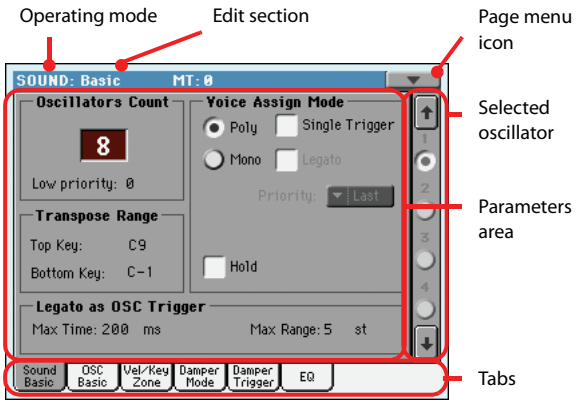
- When a Drum Kit is selected, the "Basic" section is replaced by the "DrumKit" section:



Each item in this menu corresponds to an edit section. Each edit section groups various edit pages, that may be selected by touching the corresponding tab on the lower part of the display.

Edit page structure

All edit pages share some basic elements.



Operating mode

This indicates that the instrument is in Sound mode.

Edit section

This identifies the current edit section, corresponding to one of the items of the edit menu (see "Edit menu" on page 51).

Page menu icon

Touch this icon to open the page menu (see "Page menu" on page 75).

Selected oscillator

Use these buttons to select the oscillator to edit.

Parameters area

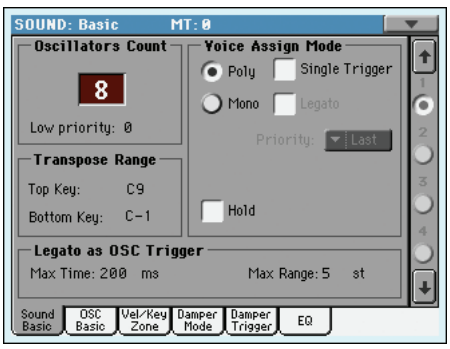
Each page contains various parameters. Use the tabs to select one of the available pages. For detailed information on the various types of parameters, see sections starting from page 52.

Tabs

Use tabs to select one of the edit pages of the current edit section.

Basic: Sound Basic

Here you can make basic settings for the Sound, such as basic oscillator settings, the oscillator count, and the polyphonic mode.



Oscillator Count

Oscillators Count

Use this box to specify the number of oscillators (up to 24) the Sound is based on.

The total amount of polyphony varies depending on the number of oscillators used by the Sound (a maximum of 120 with only 1 oscillator per voice).

Note: *When editing the Grand Piano sound, keep in mind Oscillators 10~15 can only be heard when the Damper pedal is depressed.*

Low priority

Use this parameter to decide if the highest-numbered oscillators must be turned off when more polyphony voices are needed. Keep in mind that, with a dense polyphony, missing oscillators might not even be heard.

0	No oscillator will be turned off in any case.
1	The highest-numbered oscillator will be turned off, if needed.
2	The two highest-numbered oscillators can be turned off, one after the other, if needed.
[n]…24	The n-numbered oscillators (up to 24) can be turned off, one after the other, if needed.

Transpose Range

Top/Bottom Key

Use these parameters to set a range for transposition. Inside this range notes are transposed. Outside this range, they are not transposed. This is useful to avoid RX Sounds being transposed when transposing a Sound.

Note: *Set these (general) values so that all RX Noises assigned to any Oscillator fall out of the Transpose Range. For example, if you assigned an RX Noise to a G7 on OSC1, and an RX Noise to an A7 on OSC2, set the "Top Key" value no higher than F#7 (just below the lowest RX Noise).*

Voice Assign Mode

Poly/Mono

This is the polyphonic mode of the Sound.

Poly	The Sound will play polyphonically, allowing you to play chords.
Mono	The Sound will play monophonically, producing only one note at a time.

Single Trigger

This parameter is available when the selected mode is Poly.

On	When the same note is played repeatedly, the previous note will be silenced before the next note is sounded, so that the notes do not overlap.
Off	When the same note is played repeatedly, the previous note will not be silenced before the next note is sounded.

Legato

This parameter is only available when the selected mode is Mono. It is the same found on the main page of the Sound mode.

See "Legato" on page 49 for information on this parameter.

Priority

This parameter is available when the selected mode is Mono. It specifies which note will be given priority to play when two or more notes are played simultaneously.

Low	Lowest note will take priority.
High	Highest note will take priority.
Last	Last note will take priority.

Hold

Use this parameter to keep the notes sustained even after releasing the keys.

Legato as OSC Trigger

The parameters included in this section are to be considered when a note is played 'legato', i.e., with no gap with the previous note. These parameters are valid for the whole Sound (all oscillators).

Max Time

This delay allows notes to be considered Legato, even if there is a small gap before them. This is useful to avoid some notes in a chord are played Legato, and some others Staccato.

1…999 ms	Notes played with a small gap are still considered Legato notes. A value of approx. 15 ms is usually considered effective when playing chords.

Max Range

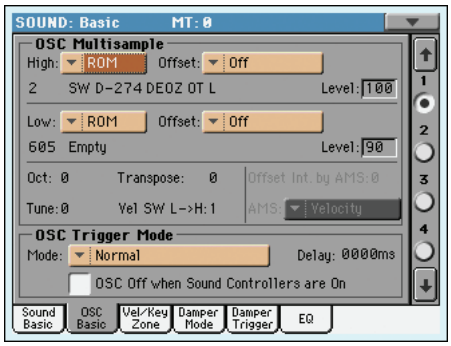
This is the range (in semitones) within the Legato is considered. If you play a wider interval, the note is considered Staccato. This is typical of some acoustic instruments, where legato is only possible within a small interval, but not on wider ones.

As an example, please try the Sound "Nylon Guitar DNC", where the Max Range is 5 semitones. Play legato with intervals smaller than 5 semitones, and you will hear how smoother legato notes will become. Play legato with wider intervals, and legato smoothing will be lost.

1…127 st	Max range in semitones.

Basic: OSC Basic

The multisample(s) on which the Sound will be based can be selected here for each of the sixteen oscillators. Each oscillator can use 1 or 2 multisamples, each one assigned to the High or Low layer.



OSC Multisample

High/Low Bank/Num

Use these parameters to select a different multisample for each of the High and Low layers. You can use velocity to switch between the two multisamples. Offset and Level can be adjusted independently for the High and Low multisamples.

The High and Low pop-up menus is where you select the bank (ROM or RAM), while the numeric field under it is for selecting the multisample inside the selected bank. The Sound name appears on its right.

The multisample you select for the High layer will be triggered by velocities higher than the value of the "Velocity Multisample Switch Low-High" parameter (see page 54). If you do not wish to use velocity switching, set the switch to a value of 001, and select only the High multisample.

ROM	The Factory bank. The Factory area of the internal memory contains 829 different multisamples (preset multisamples), supplied by Korg as standard.
RAM	RAM multisample, read from the RAM. These are user-loaded or created multisamples. ***Note:*** *If you create a new Sound based on a RAM multisample, the RAM samples must be loaded from the internal HD or from a connected USB pen driver.* *In case samples are not loaded, no sound will be heard, even if the Sound can be selected and its name appears in the display.*

Note: *Each multisample has an upper note range limit, and cannot produce sound when played above that limit.*

Offset

These parameters specify the point where the multisample(s) will begin to play. For some multisamples this parameter will not be available.

Off	The sound will start from the beginning of the multisample waveform.

1st…6th The sound will begin from the offset location predetermined for each sample.

No Attack The initial portion of the multisample is ignored.

AMS Activates the Alternate Modulation Source (see below).

PseudoRandom

(Only works when more than one Offset point is available in the multisample). Randomly selects one of the available Offset points (including Attack and Off).

Level

These parameters specify the level of each multisample.

0…127 Multisample level.

Note: *Depending on the multisample, high settings of this parameter may cause the sound to distort when a chord is played. If this occurs, lower the level.*

Octave

Use this parameter to adjust the pitch of the selected oscillator in octave units. The normal octave of the multisample is "0".

-2…+1 Octave transposition.

Transpose

Use this parameter to adjust the pitch of the selected oscillator in semitone steps over a range of ±1 octave.

-12…+12 Transposition in semitones.

Tune

Use this parameter to adjust the pitch of the sample in one-cent steps (a semitone is 100 cents) over a range of ±1 octave.

-1200…+1200

Fine-tune value in cents.

Velocity Multisample Switch Low-High

This is the velocity value dividing the High and Low layers for the selected oscillator. Notes struck harder than this value will be played by the High multisample.

AMS / Offset Intensity by AMS

(Only available when the AMS option is selected in the "Offset" parameter.) Alternate Modulation Source for the Offset. See "AMS (Alternate Modulation Source) list" on page 77.

When the "Offset Intensity by AMS" parameter has a positive value, the selected Offset point will depend on the AMS value. For example, if the selected AMS is the Velocity, when playing softly you will select the Off or 1st Offset, when playing loudly you will select the 6th or No Attack Offset.

When the "Offset Intensity by AMS" parameter has a negative value, the selection will happen in reverse (higher-numbered Offsets will be selected before the lowest-numbered ones).

OSC Trigger Mode

OSC Trigger parameters are used to set the condition to trigger the selected Oscillator. For example, a Normal Oscillator will always play, while a Legato Oscillator will only play when a note is played Legato.

Mode

This is the trigger that allows the selected Oscillator to play.

Normal The Oscillator always plays when a key is pressed (unless the "OSC Off when Sound Controllers are On" parameter is checked).

Legato The Oscillator only plays when the note is played 'legato'. The delay and pitch interval from the previous note are also to be considered, as set in the Sound > Basic page (see "Legato as OSC Trigger" above).

Staccato The Oscillator only plays when the note is NOT played legato (it is the opposite of the above choice).

Sound Controller 1

The Oscillator only plays after a switch, footswitch or EC5 pedal programmed as the Sound Controller 1 has been pressed. Press and release it, and the next note will also trigger the selected Oscillator. If you keep it pressed, the Oscillator will continue to be triggered until you release the controller.

Note: *In Sequencer and Sound mode, the Assignable Switch 1 is automatically assigned to Sound Controller 1.*

Hint: *This (like the following Sound Controllers) is especially useful to enable a different nuance to the following note(s).*

Sound Controller 2

As the above, but with a switch, footswitch or EC5 pedal programmed as the Sound Controller 2.

Note: *In Sequencer and Sound mode, the Assignable Switch 2 is automatically assigned to Sound Controller 2.*

Sound Controller Y+

As the above, but with the Joystick, assigned as the Sound Controller, pushed at least half-way forward (value 64). The controller is turned off when the Joystick is released. This control is equivalent to a CC#01 (Modulation) Control Change message.

Sound Controller Y-

As the above, but with the Joystick, assigned as the Sound Controller, pulled at least half-way back (value 64). The controller is turned off when the Joystick is released. This control is equivalent to a CC#02 (Breath Controller) Control Change message.

Cycle 1 All Oscillators with this same trigger mode assigned will play in cycle. For example, if Oscillators 1, 2 and 4 are assigned the Cycle 1 trigger mode, the following note will trigger Oscillator 1, then 2, then 4, then 1 again.

Hint: *This is especially useful to trigger different sound nuances or create vector-like sound sequences.*

Cycle 2 — As the above, for use with a different (and parallel) group of Oscillators. Having two Cycle Trigger Modes allows for cycling stereo multisamples.

Random — As the above, but with a random selection of Oscillators within the assigned group.

After Touch Trigger On

The Oscillator starts playing when an After Touch message with a value of at least 90 is received. The Velocity value is the same as the latest Note On message. The Oscillator will stop playing when the After Touch value falls back to zero.

Hint: *This (like the following Triggers) is especially useful to trigger harmonics or growls when a note is already playing.*

Y+ Trigger On

As the above, but with the Joystick, assigned as the Sound Controller, pushed at least half-way forward (value 64). The controller is turned off when the Joystick is released. This control is equivalent to a CC#01 (Modulation) Control Change message.

Y- Trigger On

As the above, but with the Joystick, assigned as the Sound Controller, pulled at least half-way back (value 64). The controller is turned off when the Joystick is released. This control is equivalent to a CC#02 (Breath Controller) Control Change message.

Legato Up — Like Legato, but is only activated when the second note is out of the "Max Range" value (see page 53) and it is higher than the first one.

Legato Down — Like Legato, but is only activated when the second note is out of the "Max Range" value (see page 53) and it is lower than the first one.

Delay

This parameter sets a delay time from the note-on to the real beginning of the sound. With a setting of KeyOff, the sound will begin when note-off occurs. This is useful to create sounds such as the "click" that is heard when a harpsichord note is released. In this case, set the "Sustain" parameter to 0 (see page 68).

0…5000ms — Delay time in milliseconds.

Key Off — The sound will begin when the note is released. The note velocity is read from the Key On Velocity.

Key Rel — Key Release. The sound will begin when the note is released. The note velocity is read from the Key Off Velocity.

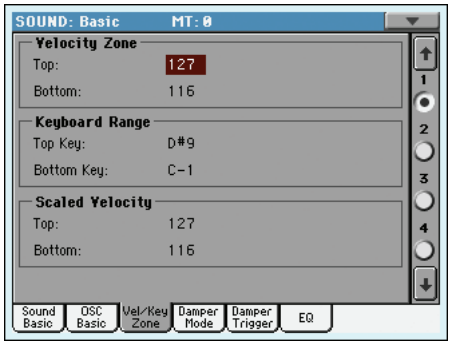
Nat Rel — Natural Release. The sound will begin when the note is released. The note starts from the current volume of the sound. If the sound's volume is already at zero, this oscillator is not retriggered.

OSC Off when Sound Controllers are On

This 'mirrors' the way Sound Controllers work. With this parameter checked, the current Oscillator will not play when one of the Sound Controllers (Sound Controller 1, Sound Controller 2, Sound Controller Y+, Sound Controller Y-) is activated. It should be applied to Oscillators with Normal, Legato, Staccato, Cycle 1, Cycle 2, Random, After Tocuh Trigger On, Y+ Trigger On, Y- Trigger On, Legato Up and Legato Down trigger modes, that can be turned off by using a switch, footswitch, EC5 pedal, or the Joystick, programmed as a Sound Controller.

Basic: Vel/Key Zone

Here you can set a note and velocity range "window" for the selected oscillator.



Velocity Zone

Here you can specify the velocity range for the selected oscillator.

Note: *You cannot set the Bottom Velocity higher than the Top Velocity, nor the Top Velocity lower than the Bottom Velocity.*

0…127 — Assigned velocity.

Keyboard Range

Here you can specify the note range for the selected oscillator.

Note: *You cannot set the Bottom Key higher than the Top key, nor the Top Key lower than the Bottom key.*

C-1…G9 — Assigned note.

Scaled Velocity

Use these parameters to scale velocity values received by the oscillator. By using the "Velocity Zone" function (see above), an oscillator may be limited to a restricted range (say, 10 to 20), that may result in weak dynamics when the associated sample is triggered.

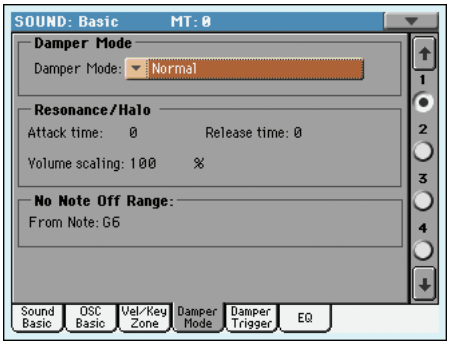
By assigning a different value to these parameters, the restricted range will be converted to a wider range (for example, the lowest range value of 10 may be converted to a Scaled Velocity value of 0, and the highest range value of 20 may be converted to a Scaled Velocity value of 127). All values included between the minimum and maximum value are scaled accordingly.

As a consequence, you can create an RX Sound of guitar, by assigning the guitar fret noise to the 10~20 velocity range. When a dynamics value between 10~20 is received, the real velocity value is scaled to the Scaled Velocity values, and plays louder.

0…127 — Assigned velocity value.

Basic: Damper Mode

Here you can program how the Damper pedal works, the Resonance/Halo effect, and the range within the Note Off message is not sent to the selected Oscillator:



Damper Mode

Here you can program the Damper Mode for each Oscillator.

Damper Mode

This parameter determines how the Damper pedal works.

Normal — The Damper pedal works as usual: by keeping it pressed, the note decay is lengthened, to simulate the longer note decay of an acoustic piano.

Damper Off — The Damper pedal is deactivated for the selected Oscillator.

Hint: *Set the Damper to Damper Off, if you plan to use the selected Oscillator in the Damper Trigger page to trigger sounds. Check the Sound "Harmonica DNC", and see how the Damper Trigger is used.*

Resonance/Halo

The Damper pedal enables a multisample, normally used for the Piano Resonance/Halo effect. If the pedal is pressed when the note is already playing, the speed at which the multisample appears and disappears, and the volume it can reach, depend on the "Resonance/Halo" parameters programmed below.

Hint: *This Damper mode is much more realistic than the Normal mode, but also 'steals' more notes from the overall polyphony, and is especially suggested for solo piano playing.*

Note: *Half-pedaling, as well as Damper messages received via MIDI (as Control Change #64), control the level of the Resonance/Halo effect.*

Repedaling — This mode acts as the Normal mode, but also enables the Damper pedal effect when the pedal is pressed after the note has been released (Note Off). In this case, the Damper effect starts from the current Release level, and decays slowly.

Warning: *Do not use Sounds with the "Repedaling" assigned to any Oscillator in a Style, or the sustained sound could cause unwanted dissonances. The "Grand Piano RX" Sound is an example of this kind of Sounds to be avoided in a Style track.*

Resonance/Halo

Here you can program the Resonance/Halo effect that is enabled by the "Resonance/Halo" Damper Mode (see above). These parameters only affect the Resonance/Halo that is enabled when pressing the Damper pedal down when a note is already playing.

Attack Time

Time needed to the Resonance/Halo to reach the maximum level after the Damper pedal has been pressed.

0…99 — Attack time as a value relative to the current Amp Env Attack value.

Release Time

Time needed to the Resonance/Halo to extinguish after the Damper pedal has been released.

0…99 — Release time as a value relative to the current Amp Env Release value.

Volume Scaling

Volume of the Resonance/Halo effect, relative to the current level of the sound (as determined by the sum of the Multisample Volume, Velocity value and current Amp Env value).

0% — No volume at all.

1…100% — Volume expressed as a percentage of the current sound level.

No Note Off Range

From Note

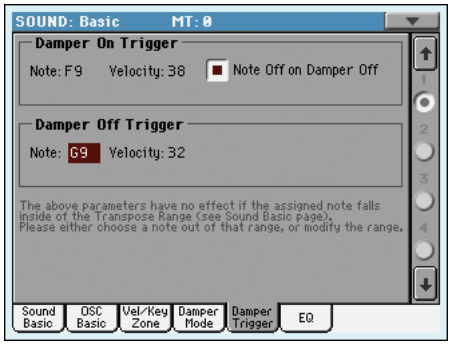
Like in an acoustic piano, the dampers can only dampen strings up to a certain pitch. Starting from that pitch, it is as if the Damper was always pressed down.

Note: *This parameter only affects the Normal Damper mode. It has no effect on the Resonance/Halo mode.*

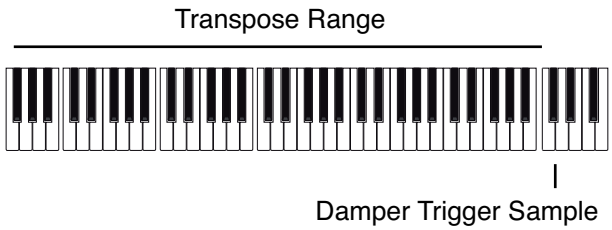
C#-1…G9 — Note starting from which the Damper is always pressed down. In an acoustic piano, this is usually set to G6.

Basic: Damper Trigger

Here you can set the notes triggered by pressing and releasing the Damper Pedal. The parameters in this page have effect on the Sound as a whole, and not on a single Oscillator.



As warned by the message on the lower area of the display, these parameters have no effect if the assigned note falls inside of the Transpose Range programmed in the "Basic: Sound Basic" page (see "Transpose Range" on page 52). Please either choose a note out of that range, or modify the Transpose Range, so that the note is either higher or lower than that range.



Damper On Trigger

Pressing down the Damper pedal (Damper On) can play a special sample assigned to a particular note (for example, pedal down squeaking in the Sound "Grand Piano RX", breathing in in the Sound "Harmonica DNC" …).

Note

Note where the special Damper On sample is located.

Velocity

Fixed velocity of the special Damper On sample.

Note Off on Damper Off

If checked, the special Damper On sample stops playing when the Damper pedal is released.

Damper Off Trigger

Releasing the Damper pedal (Damper Off) can play a special sample assigned to a particular note (for example, Damper pedal release noise in the Sound "Grand Piano RX").

Note

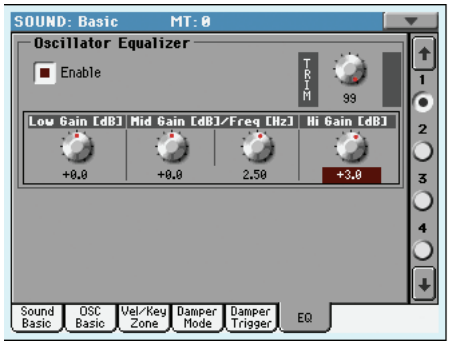
Note where the special Damper Off sample is located.

Velocity

Fixed velocity of the special Damper Off sample.

Basic: EQ

In this page, you can set the semi-parametric three-band equalizer for the selected oscillator.



Enable

Check this box to activate the equalizer on the selected oscillator.

TRIM

This knob allows you to limit the level of the signal passing through the equalizer. Extreme equalization values can overload the audio circuits and lead to distorsion. This control lets you set equalization as desired, and at the same time avoid overloading.

0…99 Limiting value. The higher, the most effective it is.

Low Gain

Low frequencies equalization. This is a shelving curve filter. Values are shown in decibels (dB).

-18…+18dB Low gain value in decibels.

Mid (Middle) Gain

Middle frequencies equalization. This is a bell curve filter. Values are shown in decibels (dB).

-18…+18dB Middle gain value in decibels.

Mid (Middle) Freq

Centre frequency of the middle frequencies equalization.

-0.100…+10 kHz

Centre frequency in kHz.

Hi (High) Gain

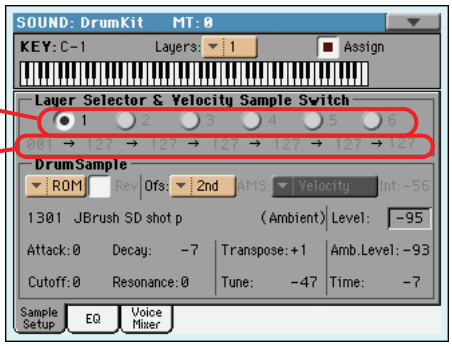
High frequencies equalization. This is a shelving curve filter. Values are shown in decibels (dB).

-18…+18dB High gain value in decibels.

DrumKit: Sample Setup (Drum Kits)

This page appears when you edit a Drum Kit. Here you can select a different percussive sample for each key and layer.

DRUM *Drum Kits use only one oscillator.*



Key

Key

Key in edit. To select a key, you can press a key on the keyboard while this parameter is selected.

Layers

Number of layers assigned to the selected key. Depending on the number of selected layers, you can have a different number of velocity switches.

Assign

Use this parameter to turn the sample on/off.

On	The sample is assigned to the selected key.
Off	The sample is not assigned. The sample assigned to the next highest assigned key is used instead.

Layer Selector & Velocity Sample Switch

Selected Layer

Use these radio buttons to select the layer to edit. The available layers depends on the "Layers" parameter.

Velocity Switches

Each of these values separates the two adjacent layers for the selected sample/key. Notes stricken harder than a velocity switch will be played by the layer on the right, while notes stricken softer are played by the layer on the left.

The first and last values are not editable, and are always 001 and 127 (respectively).

Drum Sample

Bank/Num/Name

Use these parameters to select a different Drum Sample for each layer. You can use velocity to switch between the available samples. Offset and Level can be adjusted independently for the various multisamples.

The pop-up menu is where you select the bank (ROM or RAM), while the numeric field under it is for selecting the sample inside the selected bank. The sample name appears on its right.

The sample you select for the current layer will be triggered by velocities higher than the value of the "Velocity Switches" parameter (see page 58). If you do not wish to use velocity switching, assign just one layer to the selected key, and assign a sample only to Layer 1.

ROM	The Factory bank. The internal Factory area of the Flash-ROM memory contains 944 different samples (preset samples), supplied by Korg as standard.
RAM	RAM sample, read from the RAM. These are user-loaded or created samples. ***Note:*** *If you create a new Sound based on a RAM multisample, the RAM samples must be loaded from the internal HD or from a connected USB pen driver.* *In case samples are not loaded, no sound will be heard, even if the Drum Kit can be selected and its name appears in the display.*

Note: *Each sample has an upper note range limit, and may not produce sound when played above that limit.*

Rev (Reverse)

Non editable. The sample will be played in reverse. In the case of Factory (Flash-ROM) or User (RAM) samples that were originally specified to loop, the sample will be played back in "one-shot" reverse mode. If the sample was originally set to reverse, it will playback without change.

On	The sample will playback in reverse.
Off	The sample will play back normally.

Ofs (Offset)

These parameters specify the point where the sample will begin to play. For some samples this parameter will not be available.

Off	The sound will start from the beginning of the sample.
1st…6th	The sound will begin from the offset location pre-determined for each sample.
NoAtk	The initial portion of the multisample is ignored.
AMS	Activates the Alternate Modulation Source (see below).
PseudoRandom	*(Only works when more than one Offset point is available in the multisample).* Randomly selects one of the available Offset points (including Attack and Off).

AMS / Int(ensity)

(Only available when the AMS option is selected in the "Offset" parameter.) Alternate Modulation Source for the Offset. See "AMS (Alternate Modulation Source) list" on page 77.

When the "Intensity" parameter has a positive value, the selected Offset point will depend on the AMS value. For example, if the selected AMS is the Velocity, when playing softly you will select

the Off or 1st Offset, when playing loudly you will select the 6th or No Attack Offset.

When the "Intensity" parameter has a negative value, the selection will happen in reverse (higher-numbered Offsets will be selected before the lowest-numbered ones).

Level

This parameter specifies the level of the sample. For more information, see "Level" on page 54.

Attack

This parameter is an offset to the selected sample's EG Attack.

Decay

This parameter is an offset to the selected sample's EG Decay.

Cutoff

This parameter sets the cutoff frequency for the filter applied to the selected sample.

Resonance

This parameter sets the resonance for the filter applied to the selected sample.

Transpose

This parameter transposes the selected sample. Use it to change the pitch of the selected key.

0	No transposition applied.
-64…+63	Transpose value in semitones.

Tune

Use this parameter to fine-tune the assigned sample.

0	Original tuning.
-99…+99	Fine-tuning value in cents (1/100 of a semitone).

Amb Level / Time

(These parameters are only available if the selected Drum sample is of the "Ambient" type.) When these parameters are available, "Level" control the volume of the direct (dry) sounds, while "Amb. Level" and "Time" control the volume and length of the ambience respectively.

DrumKit: EQ (Drum Kits)

This page appears when you edit a Drum Kit. In this page, you can set the semi-parametric three-band equalizer for the selected key, layer and Drum sample.

Key

See "Key" on page 58.

Layer Selector & Velocity Sample Switch

See "Layer Selector & Velocity Sample Switch" on page 58.

Drum Sample Equalizer

Enable

Check this box to activate the equalizer on the selected oscillator.

TRIM

This knob allows you to limit the level of the signal passing through the equalizer. Extreme equalization values can overload the audio circuits and lead to distorsion. This control lets you set equalization as desired, and at the same time avoid overloading.

0…99	Limiting value. The higher, the most effective it is.

Low Gain

Low frequencies equalization. This is a shelving curve filter. Values are shown in decibels (dB).

-18…+18dB	Low gain value in decibels.

Mid (Middle) Gain

Middle frequencies equalization. This is a bell curve filter. Values are shown in decibels (dB).

-18…+18dB	Middle gain value in decibels.

Mid (Middle) Freq

Centre frequency of the middle frequencies equalization.

-0.100…+10 kHz	Centre frequency in kHz.

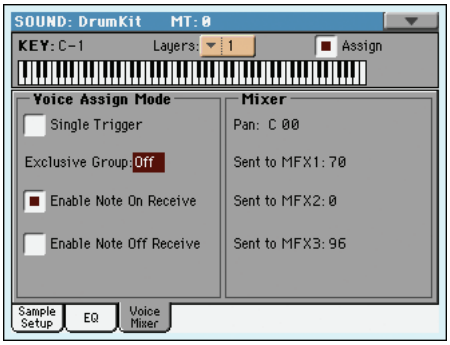
Hi (High) Gain

High frequencies equalization. This is a shelving curve filter. Values are shown in decibels (dB).

-18…+18dB	High gain value in decibels.

DrumKit: Voice Mixer (Drum Kits)

This page appears when you edit a Drum Kit. Here you can set various parameters for the different percussive sample assigned to the selected key and layer.



Key

See “Key” on page 58.

Voice Assign Mode

Single Trigger

Use this parameter to set the sample as a single-triggered one.

On — When the same key (note) is played repeatedly, the previous note will be stopped before the new note is triggered, so that they will not overlap.

Off — When the same key (note) is played repeatedly, the previous note will not be stopped before the new note is triggered.

Exclusive Group

Exclusive Groups are sets of mutually exclusive keys, stopping each other. For example, if the Open Hi-Hat and Closed Hi-Hat are assigned the same Exclusive Group, playing an Open Hi-Hat will stop the Closed Hi-Hat playing.

None — No Exclusive Group assigned. The selected key will not be stopped by any other key.

1…127 — Exclusive Groups assigned to the selected key. When you play this key, all other keys assigned to the same Exclusive Group will be stopped, and this key will be stopped by other keys assigned to the same Exclusive Group.

Enable Note On Receive

Use this parameter to enable/disable the reception of the Note On (Key On) message.

On — The Note On message is normally received.

Off — The Note On message is not received. Therefore, the corresponding key is muted.

Enable Note Off Receive

Use this parameter to enable/disable the reception of the Note Off (Key Off) message.

On — The sound will stop as soon as you release the key.

Off — The sound will continue playing up to the end of the sample. The Note Off message is ignored.

Mixer

Pan

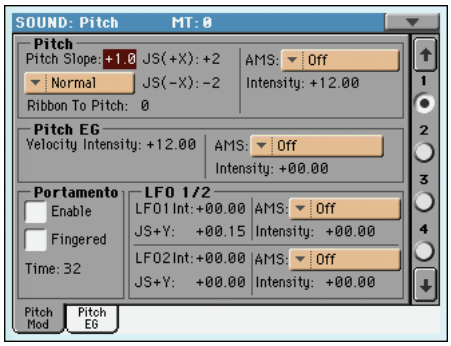
This parameter sets the position in the stereo panorama of the selected key.

Send to MFX1 … MFX3

These parameters set the MFX1, MFX2 or MFX3 send level for the selected key.

Pitch: Pitch Mod

Here you can make pitch settings for each oscillator. These settings specify how keyboard location will affect the pitch of each oscillator, and select the controllers that will affect the oscillator pitch and specify the depth of control. You can also specify the amount of pitch change produced by the Pitch EG and by LFO1 and LFO2, switch portamento on/off and specify how it will apply.



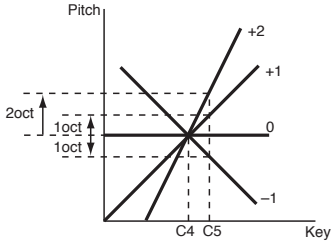
Pitch

Pitch Slope

Normally you will leave this parameter at +1.0. Positive (+) values will cause the pitch to rise as you play higher notes, and negative (–) values will cause the pitch to fall as you play higher notes.

With a value of 0, there will be no change in pitch, and the C4 pitch will sound regardless of the keyboard location you play.

The diagram shows how the Pitch Slope and pitch are related:



-1.0…+2.0 Pitch slope value.

Pitch Bend Mode

The Pitch Bend can work in different ways, depending on the selected option.

Normal Linear bending.

Fixed Scale When this parameter is turned on on an oscillator, Pitch Bend and Sub Scale have no effect on its tuning. The relevant parameters are greyed out and non-selectable. This is useful when assigning to the oscillator a noise (like the breath noise of a reed) with a fixed frequency, that must not change on different notes and different pitches.

Highest Pitch Bend only

On this oscillator, Pitch Bend is only activated on the highest note currently playing on the keyboard.

Lowest Pitch Bend only

On this oscillator, Pitch Bend is only activated on the lowest note currently playing on the keyboard.

Ribbon to Pitch

Pitch Bend range assigned to the Ribbon Controller.

-12…0…+12 Maximum bending, when touching the extreme left or right of the Ribbon Controller.

JS (+X)

This parameter specifies how the pitch will change when the joystick is moved all the way to the right. A setting of 12 produces 1 octave of change.

For example if you set this to +12 and move the joystick all the way to the right, the pitch will rise one octave above the original pitch.

-60…+12 Maximum pitch change in semitones.

JS (–X)

This parameter specifies how the pitch will change when the joystick is moved all the way to the left. A setting of 12 produces 1 octave of change.

For example, if you set this to -60 and move the joystick all the way to the left, the pitch will fall five octaves below the original pitch. This can be used to simulate the downward swoops that a guitarist produces using the tremolo arm.

-60…+12 Maximum pitch change in semitones.

AMS (Alternate Modulation Source)

This parameter selects the source that will modulate the pitch of the selected oscillator. See “AMS (Alternate Modulation Source) list” on page 77.

Intensity

This parameter specifies the depth and direction of the effect produced by “AMS”. With a setting of 0, no modulation will be applied. With a setting of 12.00, the pitch will change up to one octave.

For example, if you set “AMS” to After Touch and apply pressure to the keyboard, the pitch will rise if this parameter is set to a positive (+) value, or fall if this parameter is set to a negative (–) value. The range is a maximum of one octave.

-12.00…+12.00

Parameter value.

Pitch EG

The Pitch EG (Envelope Generator) is unique to all oscillators.

Velocity Intensity

This parameter specifies the depth and direction of the modulation that the pitch EG specified on “Pitch: Pitch EG” will apply to the pitch. With a setting of 12.00, the pitch will change a maximum of ±1 octave.

-12.00…+12.00

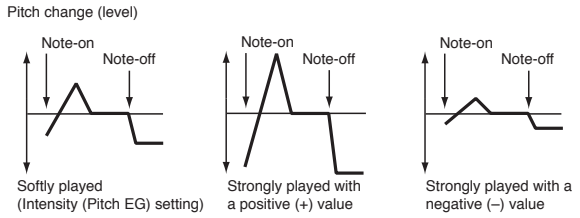
Parameter value.

Pitch EG AMS (Alternate Modulation Source)

This parameter selects the source that will modulate the pitch EG of the selected oscillator. See "AMS (Alternate Modulation Source) list" on page 77).

Pitch EG Intensity

This parameter specifies the depth and direction of the effect that "AMS" will have. For example, if you set "AMS" to Velocity and set this value to +12.00, the velocity will control the range of pitch change produced by the pitch EG in a range of ±1 octave. As you play more softly, the pitch change will draw closer to the pitch EG levels.



Note: *"Intensity" (Pitch EG) and AMS will be added to determine the depth and direction of the pitch modulation applied by the pitch EG.*

Portamento

Enabled

This parameter turns the portamento effect (smooth change in pitch from one note to the next) on/off, and specifies how it will be applied.

Note: *Portamento will also be switched when CC#65 (Portamento SW) is received.*

On	Portamento will be applied.
Off	Portamento will not be applied.

Fingered

This parameter specifies whether the portamento effect restarts or not with each note played.

On	Portamento will restart with each note.
Off	Portamento will not restart with each note.

Time

This parameter sets the portamento time. Increasing the value will produce a slower change in pitch.

000…127	Portamento time in MIDI value.

LFO 1/2

LFO1/2 Int

Intensity of the corresponding LFO.

-12…0…+12	Parameter value. Negative values invert the LFO shape.

JS+Y

Intensity of the corresponding LFO when the joystick is pushed forward.

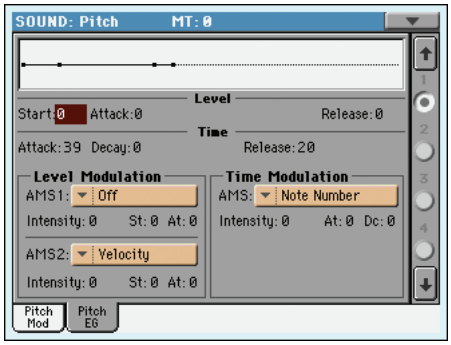
-12…0…+12	Parameter value. Negative values invert the LFO shape.

AMS / Intensity

Alternate Modulation Source for the LFO. See "AMS (Alternate Modulation Source) list" on page 77. Use the "Intensity" parameter to set the intensity of the modulation.

Pitch: Pitch EG

Here you can make settings for the pitch EG, which creates time-variant changes in the pitch of the oscillators. The depth of pitch change produced by these EG settings on the oscillators is adjusted by the "Intensity (AMS1/2 Intensity)" parameter (see page 63).

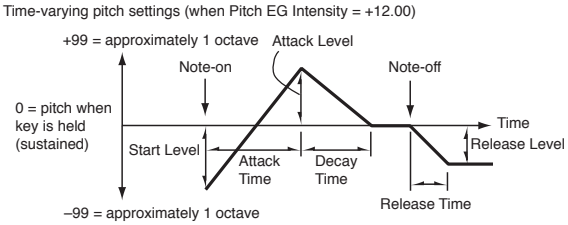


Diagram

The diagram on top of the page shows the Pitch envelope line.

Level

These parameters specify the amount of pitch change. The actual amount of pitch change will depend on the "Intensity (AMS1/2 Intensity)" parameter (see below). For example, with an "Intensity" setting of +12.00, a "Level" setting of +99 would raise the pitch one octave, and a "Level" setting of –99 would lower the pitch one octave.



Start Level

Specifies the amount of pitch change at note-on.

-99…+99 Parameter value.

Attack Level

Specifies the amount of pitch change when the attack time has elapsed.

-99…+99 Parameter value.

Release Level

Specifies the amount of pitch change when the release time has elapsed.

-99…+99 Parameter value.

Time

These parameters specify the time over which the pitch change will occur.

See diagram above.

Attack Time

Specifies the time over which the pitch will change from note-on until it reaches the pitch specified as the attack level.

0…99 Parameter value.

Decay Time

Specifies the time over which the pitch will change after reaching the attack level until it reaches the normal pitch.

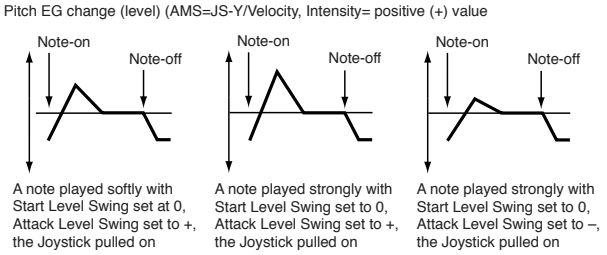
0…99 Parameter value.

Release Time

Specifies the time over which the pitch will change from note-off until it reaches the pitch specified as the release level.

0…99 Parameter value.

Level Modulation



AMS1/2 (Alternate Modulation Source 1/2)

These parameters select the source that will control the pitch EG "Level" parameters ("AMS (Alternate Modulation Source) list" on page 77).

Intensity (AMS1/2 Intensity)

These parameters specify the depth and direction of the effect applied by "AMS1". With a setting of 0, the levels specified by "Level" will be used.

For example if "AMS1" is After Touch, pressing the keys to turn it on will change the "Level" parameters of the Pitch EG. As the absolute value of "Intensity" is increased, the pitch EG levels will change more greatly when the key pressure is released. The direction of the change is specified by "St (Start Level Swing)" and "At (Attack Level Swing)". When the key pressure is released, the pitch EG levels will return to their own settings.

If "AMS1" is set to Velocity, increasing the absolute value of "Intensity" will produce increasingly wider change in pitch EG levels for strongly-played notes. The direction of the change is specified by "St (Start Level Swing)" and "At (Attack Level Swing)". As you play more softly, the pitch change will draw closer to the pitch EG levels.

-99…+99 Parameter value.

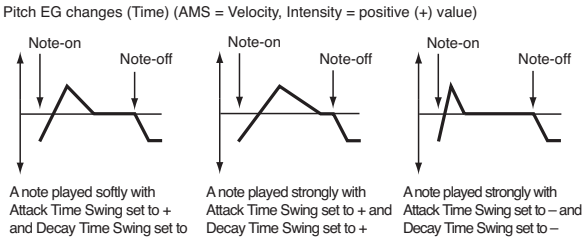
St (Start Level Swing)

This parameter specifies the direction of change in "Start Level" caused by "AMS1/2". If "Intensity" is a positive (+) value, a setting of + will raise the EG level, and a setting of – will decrease it. With a setting of 0 there will be no change.

At (Attack Level Swing)

This parameter specifies the direction of change in "Attack Level" caused by "AMS1/2". If "Intensity" is a positive (+) value, a setting of + will raise the EG level, and a setting of – will decrease it. With a setting of 0 there will be no change.

Time Modulation



AMS (Alternate Modulation Source)

This parameter selects the source that will control the "Time" parameters of the pitch EG (see "AMS (Alternate Modulation Source) list" on page 77).

Intensity (AMS Intensity)

This parameter specifies the depth and direction of the effect that "AMS" will have on the "Time" parameters. With a setting of 0, the pitch EG times will be just as specified by the "Time" settings.

The alternate modulation value at the moment that the EG reaches each point will determine the actual value of the EG time that comes next.

For example, the decay time will be determined by the alternate modulation value at the moment that the attack level is reached.

When this parameter is set to values of 16, 33, 49, 66, 82, or 99, the specified EG times will speed up as much as 2, 4, 8, 16, 32, or 64 times respectively (or slowed down to 1/2, 1/4, 1/8, 1/16, 1/32, or 1/64 of the original time).

For example if "AMS" is set to Velocity, increasing the absolute value of "Intensity" will allow strongly-played notes to increase the changes in pitch EG "Time" values. The direction of the change is specified by "At (Attack Time Swing)" and "Dc (Decay Time Swing)". As you play more softly, the pitch EG times will more closely approach the actual settings of the pitch EG.

-99…+99 Parameter value.

At (Attack Time Swing)

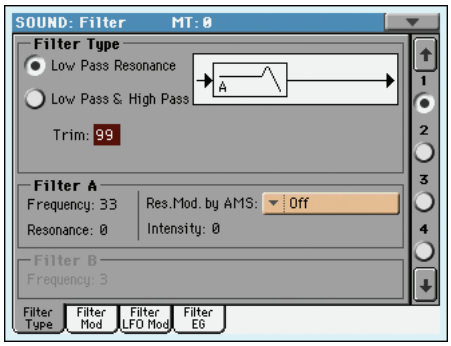
This parameter specifies the direction in which "AMS" will affect the "Attack Time" parameter. With positive (+) values of "Intensity", a setting of + will cause the time to be lengthened, and a setting of – will cause the time to be shortened. With a setting of 0 there will be no change.

Dc (Decay Time Swing)

Specify the direction in which "AMS" will affect the "Decay Time". With positive (+) values of "Intensity", a setting of + will cause the time to be lengthened, and a setting of – will cause the time to be shortened. With a setting of 0 there will be no change.

Filter: Filter Type

Here you can make settings for the filters that will be used by the oscillators. You can select either a 24 dB/octave low pass filter with resonance, or a series connection of a 12 dB/octave low pass filter and a 12 dB/octave high pass filter.

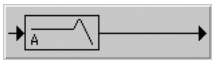


Filter Type

This parameter selects the type of filter (Low Pass Resonant, Low Pass & High Pass) for the selected oscillator.

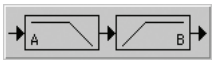
Low Pass Resonance

When the Low Pass filter type is selected, only filter A will be activated.



Low Pass & High Pass

When the Low Pass & High Pass filter type is selected, the filter B will be activated.



Trim

Use this parameter to adjust the level at which the audio signal output from the selected oscillator is input to filter A.

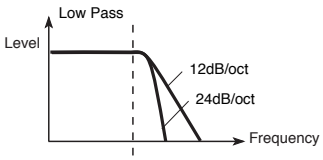
Note: *If this value is raised, the sound may distort if Resonance is set to a high value or when you play a chord.*

00…99 Trim level.

Filter A

Frequency (Cutoff Frequency A)

This parameter specifies the cutoff frequency of filter A.



This is a filter that cuts the high-frequency region above the cutoff frequency.
This is the most common type of filter, and is used to cut part of the overtone components, making an originally bright timbre sound more mellow (darker).
When the "Filter Type" is Low Pass Resonance, the cutoff will have a steeper slope.

00…99 Cutoff frequency value.

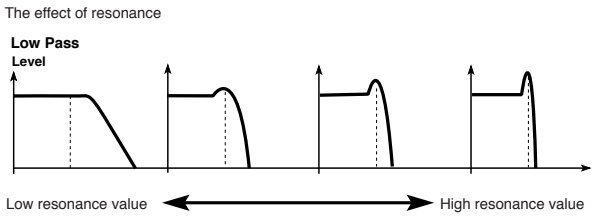
Resonance (Resonance A)

The resonance emphasizes the overtone components that lie in the region of the cutoff frequency specified by "Frequency", producing a more distinctive sound. Increasing this value will produce a stronger effect.

00…99 Resonance value.

Res. Mod. by AMS (Resonance modulated by AMS)

Selects the source that will control the "Resonance" level. See "AMS (Alternate Modulation Source) list" on page 77.



Intensity (AMS Intensity)

This parameter specifies the depth and direction of the effect that "Res. Mod. by AMS (Resonance modulated by AMS)" will have on the resonance level specified by "Resonance (Resonance A)".

For example if Velocity has been selected, changes in keyboard velocity will affect the resonance.

With positive (+) values, the resonance will increase as you play more strongly, and as you play more softly the resonance will approach the level specified by the "Resonance" setting.

With negative (–) values, the resonance will decrease as you play more strongly, and as you play more softly the resonance will approach the level specified by the "Resonance" setting.

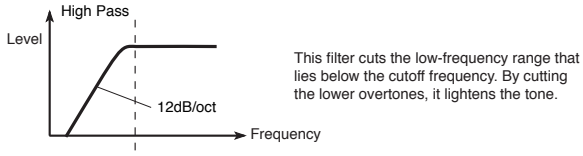
The resonance level is determined by adding the "Resonance" and "Intensity (AMS Intensity)" values.

-99…+99 Parameter value.

Filter B

Frequency (Cutoff Frequency B)

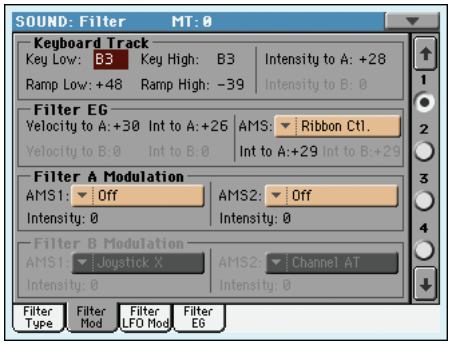
This parameter specifies the cutoff frequency of filter B. This parameter will be displayed when "Filter Type" is set to Low Pass & High Pass.



00…99 Cutoff frequency value.

Filter: Filter Mod

These settings let you apply modulation to the cutoff frequency ("Frequency") of the filter for the selected oscillator to modify the tone.



When "Filter Type" is Low Pass Resonance, parameters for filter B will not be editable (greyed out).

Keyboard Tracking

Key Low/High

These settings specify keyboard tracking for the cutoff frequency of the filter for the selected oscillator. The way in which the cutoff frequency is affected by the keyboard location you play can be specified by the "Key Low", "Key High", "Ramp Low" and "Ramp High" parameters.

Keyboard tracking will apply to the range below the specified Low note number, and above the specified High note number.

C–1…G9 Lowest/Highest note in the range.

Ramp Low/High

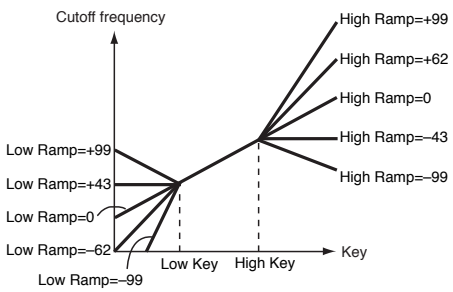
These parameter specifies the angle of keyboard tracking.

If "Intensity to A" and "Intensity to B" are set to +50, "Ramp Low" is set to –62 and "Ramp High" is set to +62, the angle of the change in cutoff frequency will correspond to the keyboard location (pitch). This means that the oscillation that occurs when you increase the "Resonance (Resonance A)" will correspond to the keyboard location.

If you set "Ramp Low" to +43 and "Ramp High" to –43, the cutoff frequency will not be affected by keyboard location. Use this setting when you do not want the cutoff frequency to change for each note.

-99…+99 Angle value.

Here is how cutoff frequency is affected by keyboard location and the Ramp setting ("Intensity to A" and "Intensity to B" = +50):



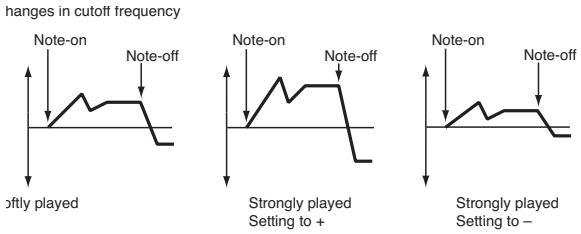
Tracking to A/B

These parameters specify the note numbers at which keyboard tracking will begin to apply, and set the "Intensity to A" and "Intensity to B" parameters to specify the depth and direction of the change applied to filters A and B.

For the range of notes between "Key Low" and "Key High", the cutoff frequency will change according to the keyboard location (pitch).

-99…+99 Parameter value.

Filter EG



Velocity to A

This parameter specifies the depth and direction of the effect that velocity will have on the time-varying changes created by the filter EG (as set on "Filter: Filter EG") to control the filter A cutoff frequency.

With positive (+) values, playing more strongly will cause the filter EG to produce greater changes in cutoff frequency. With negative (–) values, playing more strongly will also cause the filter EG to produce greater changes in cutoff frequency, but with the polarity of the EG inverted.

99…+99 Value of the Velocity to A parameter.

Velocity to B

This parameter specifies the depth and direction of the effect that velocity will have on the time-varying changes created by the filter EG to control the filter B cutoff frequency (see "Velocity to A").

99…+99 Value of the Velocity to B parameter.

Int to A (Intensity to A)

Specifies the depth and direction of the effect that the time-varying changes created by the filter 1 EG will have on the filter A cutoff frequency.

With positive (+) settings, the sound will become brighter when the EG levels set by Filter EG "Level" and "Time" parameters are in the "+" area, and darker when they are in the "–" area.

With negative (–) settings, the sound will become darker when the EG levels set by Filter EG "Level" and "Time" parameters are in the "+" area, and brighter when they are in the "–" area.

-99…+99 Parameter value.

Int to B (Intensity to B)

Specifies the depth and direction of the effect that the time-varying changes created by the filter EG will have on the filter B cutoff frequency (see "Int to A (Intensity to A)").

-99…+99 Parameter value.

AMS (EG Alternate Modulation Source)

Selects the source that will control the depth and direction of the effect that the time-varying changes produced by the filter EG will have on the cutoff frequency of filters A and B. See "AMS (Alternate Modulation Source) list" on page 77.

Int to A (Intensity to A)

Specifies the depth and direction of the effect that "AMS" will have on filter A. For details on how this will apply, refer to "Int to A (Intensity to A)".

Int to B (Intensity to B)

Specifies the depth and direction of the effect that "AMS" will have on filter B. For details on how this will apply, refer to "Int to A (Intensity to A)".

Note: *The sum of the settings for "Velocity to A/B", "Intensity to A/B", and "(AMS) Intensity to A/B" will determine the depth and direction of the effect produced by the filter EG.*

Filter A/B Modulation

AMS1 (Alternate Modulation Source 1 for filter A/B)

Selects the source that will control modulation of the filter A cutoff frequency. See "AMS (Alternate Modulation Source) list" on page 77.

Note: *The filter B parameters will be displayed when "Filter Type" on page 64 is Low Pass & High Pass.*

Intensity (Intensity to AMS1)

Specifies the depth and direction of the effect that "AMS1" will have.

When "AMS1" is JS X, a positive (+) value for this parameter will cause the cutoff frequency to rise when the joystick is moved toward the right, and fall when the joystick is moved toward the left. With a negative (–) value for this parameter, the opposite will occur.

This value is added to the setting of the Filter A "Frequency".

AMS2 (Alternate Modulation Source 2 for filter A/B)

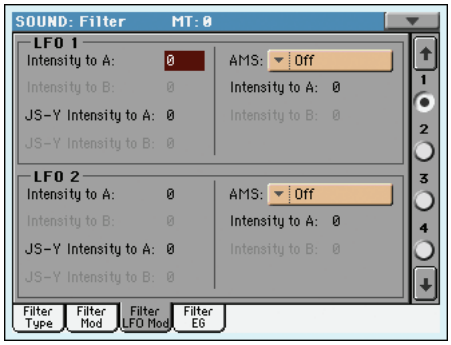
Selects the source that will control modulation of the filter A cutoff frequency (see "AMS (Alternate Modulation Source) list" on page 77).

Intensity (Intensity to AMS2)

Specifies the depth and direction of the effect that the selected source will have (see "Intensity (Intensity to AMS1)" on page 66).

Filter: Filter LFO

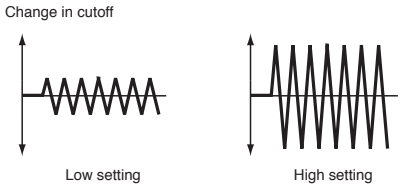
Here you can use the filter LFO to apply cyclic modulation to the cutoff frequency of the filter (for the selected oscillator) to create cyclical changes in tone.



LFO 1

Intensity to A

Specifies the depth and direction of the modulation that LFO1 (set on "LFO: LFO1") will have on the cutoff frequency of filter A. Negative (–) settings will invert the phase.



-99…+99 Parameter value.

Intensity to B

Specify the depth and direction of the modulation that LFO1 will have on the cutoff frequency of filter B (see "Intensity to A").

-99…+99 Parameter value.

JS (Joystick) –Y Intensity to A

By moving the joystick in the Y direction (toward yourself), you can control the depth at which LFO1 modulates the cutoff frequency of filter A. This parameter specifies the depth and direction of the control.

Higher settings of this parameter will produce greater increases in the effect of LFO1 on the filter when the joystick is moved toward yourself.

-99…+99 Parameter value.

JS (Joystick) –Y Intensity to B

By moving the joystick in the Y direction (toward yourself), you can control the depth at which LFO1 modulates the cutoff frequency of filter B. This parameter specifies the depth and direction of the control (see "JS (Joystick) –Y Intensity to A").

AMS (Filter LFO1 Alternate Modulation Source)

Select a source that will control the depth and direction of cutoff frequency change for both filters A and B. See "AMS (Alternate Modulation Source) list".

Intensity to A

Specifies the depth and direction of the effect that "AMS" will have on filter A.

For example if "AMS" is After Touch, higher settings of this parameter will allow greater change to be applied to LFO1 when you apply pressure to the keyboard.

-99…+99 Parameter value.

Intensity to B

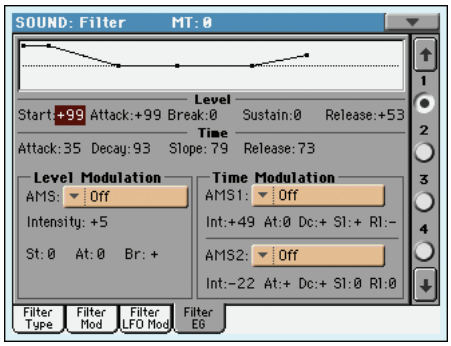
Specifies the depth and direction of the effect that "AMS" will have on filter B (see "Intensity to A").

LFO 2

Adjusts the depth of the cyclic modulation applied by LFO2 (set on "LFO: LFO2") to the cutoff frequency of filters A and B. For more information on the parameters see "LFO 1" above.

Filter: Filter EG

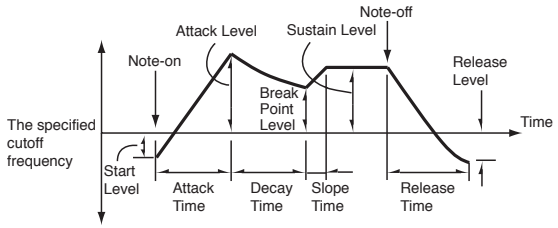
Here you can make settings for the EG that will produce time-varying changes in the cutoff frequency of filters A and B for the selected oscillator. The depth of the effect that these settings will have on the filter cutoff frequency is determined by the "Velocity" and "Intensity" parameters.



Diagram

The diagram on top of the page shows the Filter envelope line.

Filter envelope



Level

These are the envelope segment levels. The result will depend on the filter that was selected in "Filter Type". For example, with the Low Pass Resonance filter, positive (+) values of EG Intensity will cause the tone to be brightened by positive (+) levels, and darkened by negative (–) levels.

Start

This parameter specifies the change in cutoff frequency at the time of note-on.

-99…+99 Level value.

Attack

This parameter specifies the change in cutoff frequency after the attack time has elapsed.

-99…+99 Level value.

Break (Break Point)

This parameter specifies the change in cutoff frequency after the decay time has elapsed.

-99…+99 Level value.

Sustain

This parameter specifies the change in cutoff frequency that will be maintained from after the slope time has elapsed until note-off occurs.

-99…+99 Level value.

Release

This parameter specifies the change in cutoff frequency that will occur when the release time has elapsed.

-99…+99 Level value.

Time

These parameters specify the time over which the filter change will occur.

Attack

This parameter specifies the time over which the level will change from note-on until the attack level is reached.

0…99 Time value.

Decay

This parameter specifies the time over which the level will change from the attack level to the break point level.

0…99 Time value.

Slope

This parameter specifies the time over which the level will change after the decay time has elapsed until the sustain level is reached.

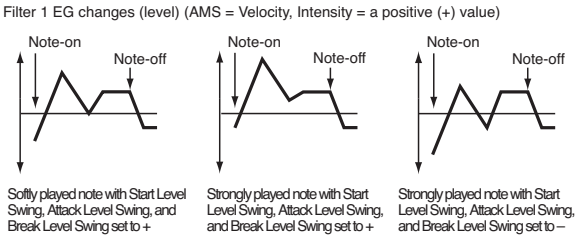
0…99 Time value.

Release

This parameter specifies the time over which the level will change after note-on occurs until the release level is reached.

0…99 Time value.

Level Modulation



AMS (Alternate Modulation Source)

This parameter selects the source that will control the "Level" parameters of the filter EG ("AMS (Alternate Modulation Source) list" on page 77).

Intensity (AMS Intensity)

This parameter specifies the depth and direction of the effect applied by "AMS". With a setting of 0, the levels specified by "Frequency (Cutoff Frequency A)" will be used.

For example, if "AMS" is Velocity, and you set "St (Start Level Swing)", "At (Attack Level Swing)" and "Br (Break Level Swing)" to + and set "Intensity" to a positive (+) value, the EG levels will rise as you play more strongly. If "Intensity" is set to a negative (–) values, the EG levels will fall as you play more strongly.

-99…+99 Intensity value.

St (Start Level Swing)

This parameter specifies the direction in which "AMS" will affect "Start". When "Intensity" has a positive (+) value, a setting of + for this parameter will allow "AMS" to raise the EG level, and a setting of – will allow "AMS" to lower the EG level. With a setting of 0 there will be no change.

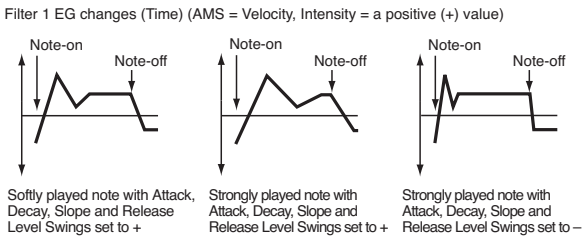
At (Attack Level Swing)

This parameter specifies the direction in which "AMS" will affect "Attack". When "Intensity" has a positive (+) value, a setting of + for this parameter will allow "AMS" to raise the EG level, and a setting of – will allow "AMS" to lower the EG level. With a setting of 0 there will be no change.

Br (Break Level Swing)

This parameter specifies the direction in which "AMS" will affect "Break (Break Point)". When "Intensity" has a positive (+) value, a setting of + for this parameter will allow "AMS" to raise the EG level, and a setting of – will allow "AMS" to lower the EG level. With a setting of 0 there will be no change.

Time Modulation



AMS1/2

Use this parameter to selecthe source that will control the "Time" parameters of the filter EG. See "AMS (Alternate Modulation Source) list" on page 77.

Int (AMS Intensity)

This parameter specifies the depth and direction of the effect that "AMS1/2" will have.

For example, if "AMS1/2" is set to FltKTr +/+, the EG "Time" parameters will be controlled by the Keyboard Tracking settings. With positive (+) values of this parameter, positive (+) values of "Ramp Low/High" will lengthen the EG times, and negative (–) values of "Ramp Low/High" will shorten the EG times. The direction of change is specified by "At (Attack Time Swing)", "Dc (Decay Time Swing)", "Sl (Slope Time Swing)", and "Rl (Release Time Swing)".

With a setting of 0, the times specified by "Frequency (Cutoff Frequency A)" will be used.

If "AMS1/2" is set to Velocity, positive (+) values of this parameter will cause EG times to lengthen as you play more strongly, and negative (–) values will cause EG times to shorten as you play more strongly.

-99…+99 Intensity value.

At (Attack Time Swing)

This parameter specifies the direction in which "AMS1/2" will affect the attack time. With positive (+) values of "Intensity", setting this parameter to + will allow AMS to lengthen the time, and setting this parameter to – will allow AMS to shorten the time. With a setting of 0 there will be no change.

Dc (Decay Time Swing)

This parameter specifies the direction in which "AMS1/2" will affect the decay time. With positive (+) values of "Intensity", setting this parameter to + will allow AMS to lengthen the time, and setting this parameter to – will allow AMS to shorten the time. With a setting of 0 there will be no change.

Sl (Slope Time Swing)

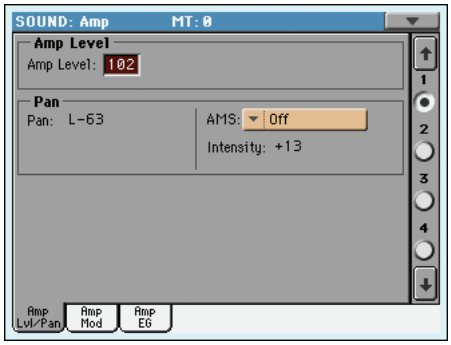
This parameter specifies the direction in which "AMS1/2" will affect the slope time. With positive (+) values of "Intensity", setting this parameter to + will allow AMS to lengthen the time, and setting this parameter to – will allow AMS to shorten the time. With a setting of 0 there will be no change.

Rl (Release Time Swing)

This parameter specifies the direction in which "AMS1/2" will affect the release time. With positive (+) values of "Intensity", setting this parameter to + will allow AMS to lengthen the time, and setting this parameter to – will allow AMS to shorten the time. With a setting of 0 there will be no change.

Amp: Amp Level/Pan

These parameters control the volume and pan of the selected oscillator.



Amp Level

Volume of the selected oscillator.

Note: *The volume of a Sound can be controlled by CC#7 (volume) and #11 (expression). The resulting level is determined by multiplying the values of CC#7 and #11. The Global MIDI channel is used for control.*

0…127 Volume level.

Pan

Pan (stereo position) of the selected oscillator.

DRUM *This parameter is not available when editing a Drum Kit. Use the individual Pan control for each key (see "Pan" on page 60).*

Random The sound will be heard from a different location at each note-on.

L001 Places the sound at far left.

C064 Places the sound in the center.

R127 Places the sound to far right.

Note: *This can be controlled by CC#10 (panpot). A CC#10 value of 0 or 1 will place the sound at the far left, a value of 64 will place the sound at the location specified by the "Pan" setting for each oscillator, and a value of 127 will place the sound at the far right. This is controlled on the global MIDI channel.*

Pan modulation

AMS (Alternate Modulation Source)

Selects the source that will modify pan (see "AMS (Alternate Modulation Source) list" on page 77). This change will be relative to the "Pan" setting.

Intensity

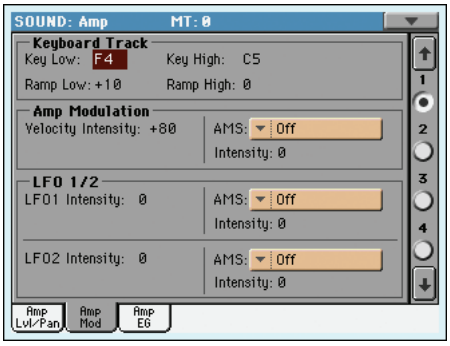
Specifies the depth of the effect produced by "AMS". For example, if "Pan" is set to C064 and "AMS" is Note Number, positive (+) values of this parameter will cause the sound to move toward the right as the note numbers increase beyond the C4 note (i.e.,

as you play higher), and toward the left as the note numbers decrease (i.e., as you play lower). Negative (–) values of this parameter will have the opposite effect.

-99…+99 Parameter value.

Amp: Amp Mod

These settings allow you to apply modulation to amp (for each oscillator) to modulate the volume.



Keyboard Tracking

These parameters let you use keyboard tracking to adjust the volume of the selected oscillator. Use the "Key" and "Ramp" parameters to specify how the volume will be affected by the keyboard location that you play.

Key Low/High

These settings specify the note number at which keyboard tracking will begin to apply. The volume will not change between "Key Low" and "Key High".

Keyboard tracking will apply to the range below the specified Low note number, and above the specified Highy note number.

C–1…G9 Lowest/Highest note in the range.

Ramp Low/High

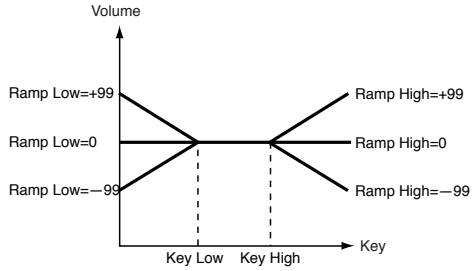
These parameters specify the angle of keyboard tracking.

With positive (+) values of the "Ramp Low" parameter, the volume will increase as you play notes below the "Key Low" note number. With negative (–) values, the volume will decrease.

With positive (+) values of the "Ramp High" parameter, the volume will increase as you play notes above the "Key High" note number. With negative (–) values, the volume will decrease.

-99…+99 Angle value.

Here is an example of volume changes produced by keyboard location and "Ramp" settings:

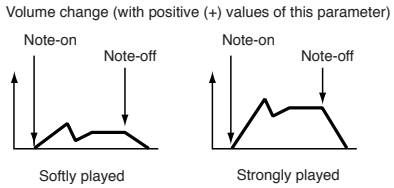


Amp Modulation

These parameters specify how the volume of the selected oscillator will be affected by velocity.

Velocity Intensity

With positive (+) values, the volume will increase as you play more strongly. With negative (–) values, the volume will decrease as you play more strongly.



-99…+99 Intensity value.

AMS (Alternate Modulation Source)

Selects the source that will control the volume of the amp for the selected oscillator (See "AMS (Alternate Modulation Source) list" on page 77). "Velocity" cannot be selected.

Intensity

This parameter specifies the depth and direction of the effect that "AMS" will have. The actual volume will be determined by multiplying the value of the changes produced by the amp EG with the values of Alternate Modulation etc., and if the levels of the amp EG are low, the modulation applied by Alternate Modulation will also be less.

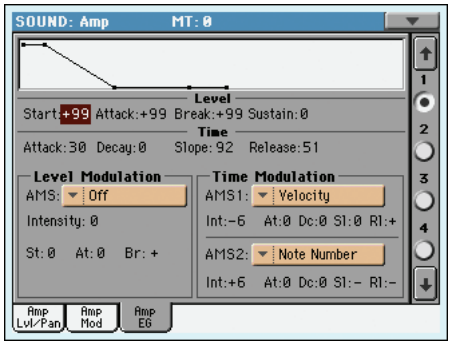
For example, if "AMS" is set to After Touch, positive (+) values of this parameter will cause the volume to increase when pressure is applied to the keyboard. However if the EG settings etc. have already raised the volume to its maximum level, the volume cannot be increased further.

With negative (–) values of this parameter, the volume will decrease when pressure is applied to the keyboard.

-99…+99 Intensity value.

Amp: Amp EG

These parameters let you create time-varying changes in the volume of the selected oscillator.

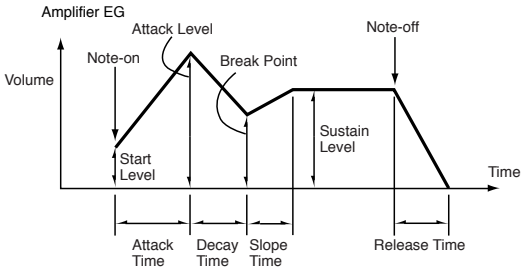


Diagram

The diagram on top of the page shows the Amplitude envelope line.

Level

These parameters are the level of the envelope segment.



Start

This parameter specifies the volume level at note-on. If you want the note to begin at a loud level, set this to a high value.

0…99 Level value.

Attack

This parameter specifies the volume level that will be reached after the attack time has elapsed.

0…99 Level value.

Break

This parameter specifies the volume level that will be reached after the decay time has elapsed.

0…99 Level value.

Sustain

This parameter specifies the volume level that will be maintained from after the slope time has elapsed until note-off occurs.

0…99 Level value.

Time

These parameters specify the time over which the volume change will occur.

Attack

This parameter specifies the time over which the volume will change after note-on until it reaches the attack level. If the start level is 0, this will be the rise time of the sound.

0…99 Time value.

Decay

This parameter specifies the time over which the volume will change from when it reaches the attack level until it reaches the break point level.

0…99 Time value.

Slope

This parameter specifies the time over which the volume will change from when it reaches the break point level until it reaches the sustain level.

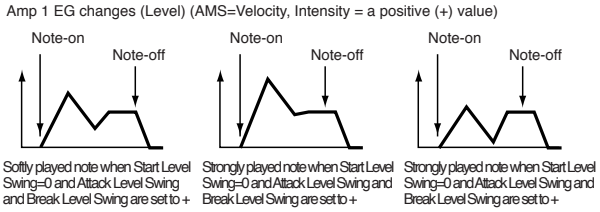
0…99 Time value.

Release

This parameter specifies the time over which the volume will change after note-off until it reaches 0.

0…99 Time value.

Level Modulation



AMS (Alternate Modulation Source)

This parameter specifies the source that will control the “Level” parameters of the amp EG. See “AMS (Alternate Modulation Source) list” on page 77.

Intensity

This parameter specifies the depth and direction of the effect that “AMS” will have. For example, if “AMS” is Velocity, setting “St (Start Level Swing)”, “At (Attack Level Swing)” and “Br (Break Point Level Swing)” to + and setting “Intensity” to a positive (+) value will cause the amp EG volume levels to increase as you play more strongly. Setting “Intensity” to a negative (–) values will cause the amp EG volume levels to decrease as you play more strongly. With a setting of 0, the levels will be as specified on “Amp: Amp EG”.

-99…+99 Intensity value.

St (Start Level Swing)

This parameter specifies the direction in which “AMS” will change “Start”. If “Intensity” is set to a positive (+) value, setting this parameter to + will allow AMS to increase the EG level, and setting this parameter to – will allow AMS to decrease the EG level. With a setting of 0, no change will occur.

At (Attack Level Swing)

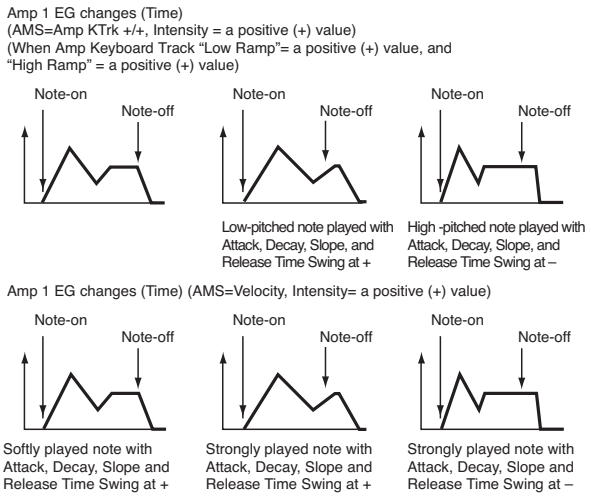
This parameter specifies the direction in which “AMS” will change “Attack”. If “Intensity” is set to a positive (+) value, setting this parameter to + will allow AMS to increase the EG level, and setting this parameter to – will allow AMS to decrease the EG level. With a setting of 0, no change will occur.

Br (Break Point Level Swing)

This parameter specifies the direction in which “AMS” will change “Break”. If “Intensity” is set to a positive (+) value, setting this parameter to + will allow AMS to increase the EG level, and setting this parameter to – will allow AMS to decrease the EG level. With a setting of 0, no change will occur.

Time Modulation

These parameters let you use an alternate modulation source to modify the amp EG times that were specified in "Time" on page 71.



AMS1 (Alternate Modulation Source 1 - Time)

This parameter specifies the source that will control the "Time" parameters of the amp EG (see "AMS (Alternate Modulation Source) list" on page 77). With a setting of Off, there will be no modulation.

Intensity

This parameter specifies the depth and direction of the effect that "AMS1" will have. For example, if "AMS1(T)" is Amp KTrk +/+, the (Amp) Keyboard Track settings (see "Keyboard Tracking" on page 70) will control the EG "Time" parameters. With positive (+) values of this parameter, positive (+) values of "Ramp (Ramp Setting) will cause EG times to be lengthened, and negative (–) values of "Ramp (Ramp Setting)" will cause EG times to be shortened. The direction of the change is specified by "At (Attack Time Swing)", "Dc (Decay Time Swing)", "Sl (Slope Time Swing)", and "Rl (Release Time)".

When "AMS1(T)" is Velocity, positive (+) values will cause EG times to lengthen as you play more strongly, and negative (–) values will cause EG times to shorten as you play more strongly. With a setting of 0, the EG times will be as specified by the "Level" parameters (see page 71).

At (Attack Time Swing)

This parameter specifies the direction of the effect that "AMS1" will have on "Attack". With positive (+) values of "Intensity", setting this parameter to + will allow AMS1 to lengthen the time, and setting it to – will allow AMS1 to shorten the time. With a setting of 0 there will be no effect.

Dc (Decay Time Swing)

This parameter specifies the direction of the effect that "AMS1" will have on "Decay". With positive (+) values of "Intensity", setting this parameter to + will allow AMS1 to lengthen the time, and setting it to – will allow AMS1 to shorten the time. With a setting of 0 there will be no effect.

Sl (Slope Time Swing)

This parameter specifies the direction of the effect that "AMS1" will have on "Slope". With positive (+) values of "Intensity", setting this parameter to + will allow AMS1 to lengthen the time, and setting it to – will allow AMS1 to shorten the time. With a setting of 0 there will be no effect.

Rl (Release Time)

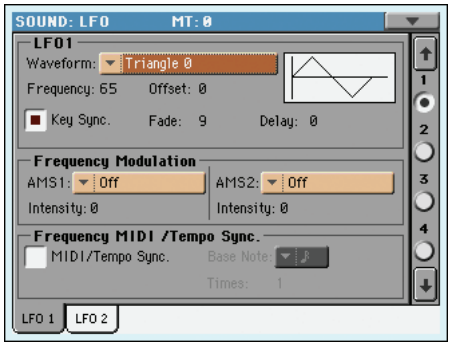
This parameter specifies the direction of the effect that "AMS1" will have on "Release". With positive (+) values of "Intensity", setting this parameter to + will allow AMS1 to lengthen the time, and setting it to – will allow AMS1 to shorten the time. With a setting of 0 there will be no effect.

AMS2 (Alternate Modulation Source 2)

This is another alternate modulation source for the Amp EG. See above "AMS1" parameters.

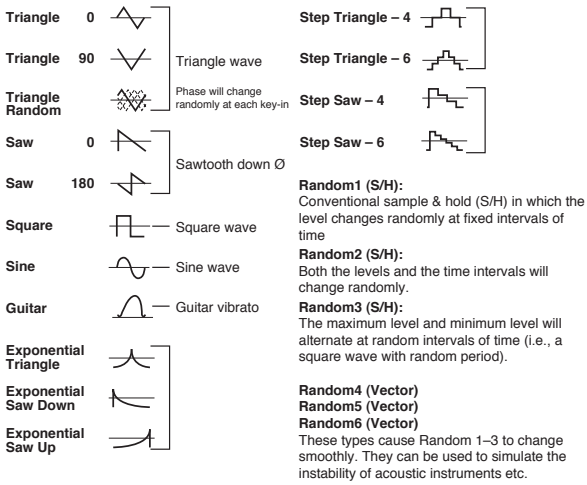
LFO: LFO1

In this and the next page you can make settings for the LFO that can be used to cyclically modulate the Pitch, Filter, and Amp of each oscillator. There are two LFO units for each oscillator. By setting the LFO1 or LFO2 Intensity to a negative (–) value for Pitch, Filter, or Amp, you can invert the LFO waveform.



Waveform

This parameter selects the LFO waveform. The numbers that appear at the right of some of the LFO waveforms indicate the phase at which the waveform will begin.



Frequency

Set the LFO frequency. A setting of 99 is the fastest.

00…99 Frequency rate.

Offset

This parameter specifies the central value of the LFO waveform. For example, with a setting of 0 as shown in the following diagram, the vibrato that is applied will be centered on the note-on pitch. With a setting of +99, the vibrato will only raise the pitch above the note-on pitch, in the way in which vibrato is applied on a guitar.

When "Waveform" is set to Guitar, the modulation will occur only in the positive (+) direction even if you set "Offset" to 0.

Here are offset settings and pitch change produced by vibrato:

-99…+99 Offset value.

Key Sync

This parameter specifies if the LFO is synchronized to key strokes.

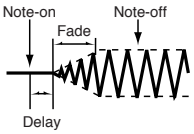
On The LFO will start each time you play a note, and an independent LFO will operate for each note.

Off The LFO effect that was started by the first-played note will continue to be applied to each newly-played note. (In this case, Delay and Fade will be applied only to the LFO when it is first started).

Fade

This parameter specifies the time from when the LFO begins to apply until it reaches the maximum amplitude. When "Key Sync." is Off, the fade will apply only when the LFO is first started.

Here is how "Fade" affects the LFO (when "Key Sync" is On):



00…99 Fade rate.

Delay

This parameter specifies the time from note-on until the LFO effect begins to apply. When "Key Sync" is Off, the delay will apply only when the LFO is first started.

0…99 Delay time.

Frequency Modulation

You can use two alternate modulation sources to adjust the speed of the LFO1 for the selected oscillator.

AMS1 (Alternate Modulation Source1)

Selects the source that will adjust the frequency of the selected oscillator LFO1 (see "AMS (Alternate Modulation Source) list" on page 77). LFO1 can be modulated by LFO2.

Intensity (AMS1 Intensity)

This parameter specifies the depth and direction of the effect that "AMS1(F)" will have. When this parameter is set to a value of 16, 33, 49, 66, 82, or 99, the LFO frequency being can be increased by a maximum of 2, 4, 8, 16, 32, or 64 times respectively (or decreased by 1/2, 1/4, 1/8, 1/16, 1/32, or 1/64 respectively).

For example, if "AMS1(F)" is Note Number, positive (+) values of this parameter will cause the oscillator LFO to speed up as you play higher notes. Negative (–) values will cause the oscillator LFO to slow down as you play higher notes. This change will be centered on the C4 note.

If "AMS1(F)" is set to JS +Y, raising the value of this parameter will cause the oscillator LFO1 speed to increase as the joystick is moved away from yourself. With a setting of +99, moving the joystick all the way away from yourself will increase the LFO speed by approximately 64 times.

-99…+99 Intensity value.

AMS2 (Alternate Modulation Source2)
Intensity (AMS2 Intensity)

Make settings for a second alternate modulation source that will adjust the frequency of the oscillator LFO1 (see above "AMS1 (Alternate Modulation Source1)" and "Intensity (AMS1 Intensity)").

Frequency MIDI/Tempo Sync

MIDI/Tempo Sync

This parameter enables/disables the LFO synchronization with Sequencer 1 Tempo.

On The LFO frequency will synchronize to the tempo (MIDI Clock) of Sequencer 1. In this case, the values you specified for "Frequency" (see page 73) and "Frequency Modulation" (see page 73) will be ignored.

Base Note

When "MIDI/Tempo Sync" is On, these parameters set a note length relative to "q (Tempo)" and the multiple ("Times") that will be applied to it. These parameters will determine the frequency of the LFO1. For example if "Base Note" is q (quarter note) and "Times" is 04, the LFO will perform one cycle every four beats.

Even if you change the "q (Tempo)" setting of Sequencer 1, the LFO will always perform one cycle every four beats.

DRUM *This parameter is not available when editing a Drum Kit.*

x, e!, e, q!, q, h!, h, w

Note value.

Times

DRUM *This parameter is not available when editing a Drum Kit.*

1...16 Beats before restarting the cycle.

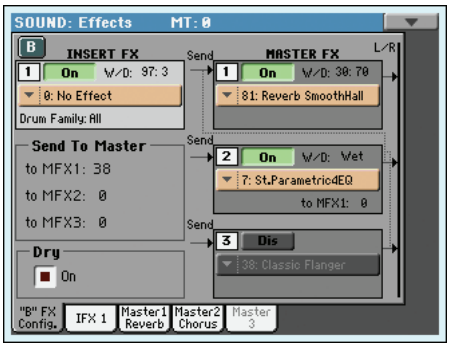
LFO: LFO2

Here you can make settings for the LFO2, which is the second LFO that can be applied to the selected oscillator. See "LFO: LFO1" for more information on the parameters value.

However in "Frequency Modulation", the LFO cannot be selected as a modulation source in "AMS1" or "AMS2."

Effects: "B" FX Config

This page allows you to select the effects for the Sound (B Group). The effect types and the FX matrix are the same seen for the Style Play mode (see "Effects: A/B FX Configuration" on page 125 of the User's Manual).



FX Name

Use this pop-up menu to choose one of the available effects. For a list of the available effects, see "Effects" on page 235.

Insert FX - Drum Family

DRUM Use this pop-up menu to choose the Drum Family the corresponding Insert FX is assigned to.

FX parameters

All other parameters in this page are the same seen for the Style Play mode (see "Effects: A/B FX Configuration" on page 125 in the User's Manual).

Send to Master

Use these parameters to set the level of the Sound signal going from the Insert FX to the Master FXs.

0…127 Level of the sent signal.

Dry

Use this checkbox to mix the dry, direct Sound signal to the effects.

Effects: IFX 1

In this page you can edit the effect assigned to the Insert FX 1 effect processor. See "Effects" on page 106 for more information.

Effects: Master 1 / Reverb

In this page you can edit the effect assigned to the Master FX 1 effect processor (usually Reverb). See "Effects" on page 106 for more information.

Effects: Master 2 / Chorus

In this page you can edit the effect assigned to the Master FX 2 effect processor (usually Chorus). See "Effects" on page 106 for more information.

Note: *When assigning double-size effects to Master 2, either Master 3 or the Insert FX are no longer available.*

Effects: Master 3

In this page you can edit the effect assigned to the Master FX 3 effect processor. See "Effects" on page 106 for more information.

Note: *When turning Master 3 on, the Insert FX is no longer available.*

Page menu

Touch the page menu icon to open the menu. Touch a command to select it. Touch anywhere in the display to close the menu without selecting a command.

Write Sound

Select this command to open the Write Sound dialog box, and save all editing parameters to a Sound.

See "Write Sound dialog box" on page 75 for more information.

Solo Oscillator

Select this command to solo the selected oscillator, and mute the other oscillators. Select it again to unmute the other oscillators.

When this function is activated, the "Solo OSC [n]" indicator (n = oscillator number) blinks on the page header. While in this situation, you can select a different oscillator to be soloed.

Swap LFO

Select this command to replace LFO1 with LFO2, and vice-versa.

Copy Oscillator

Select this command to copy all settings between oscillators. See "Copy Oscillator dialog box" on page 76 for more information.

Copy/Paste FX

You can copy a single effect, or all effects. You can copy them between different Sounds. The copy operation can only be carried on while remaining in Sound mode (you cannot copy the effects, for example, to a Song).

Note: *This operation does not copy the "Send to Master", "Dry On/Off" and "DrumFamily" parameters.*

To copy a single effect:

1. Select the source Sound, then

   • go to the page of the single effect you want to copy (IFX 1, Master 1, Master 2, Master 3), *or*

   • go to the Effects > B FX Config page, to copy all effects. This may be useful if you want to copy more than a single effect.
2. Choose the "Copy FX" command from the page menu.
3. Select the target Sound, then go to the page of the single effect you want to paste (IFX 1, Master 1, Master 2, Master 3).
4. Choose the "Paste FX" command from the page menu.

To copy all effects:

1. Select the source Sound, then go to the Effects > B FX Config page, to copy all the effects.
2. Choose the "Copy FX" command from the page menu.
3. Select the target Sound, then go to the page of the Effects > B FX Config page.
4. Choose the "Paste FX" command from the page menu.

Copy Drum Kit

Select this command to copy the Drum Kit from a different Drum Kit. See "Copy Drum Kit dialog box" on page 76 for more information.

Init Sound

Select this command to delete all parameters, and set them to a default value.

Compare

When this command is checked, original Sound parameter values are temporarily recalled, to compare them with edited parameters. You cannot edit the Sound while you are in Compare mode.

While this function is on, the Compare indicator blinks on the page header.

Write Sound dialog box

Open this window by selecting the Write Sound item from the page menu. Here, you can save all Sound parameters to a Sound location in memory.

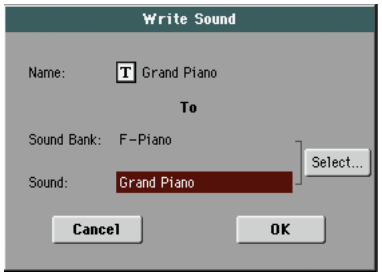
Warning: *If you write over an existing Sound, the Sound will be deleted and replaced by the one you are saving ("overwrite"). Please save on a storage device any User Sound you don't want to lose.*

Note: *DrumKits cannot be written over standard Sounds, nor vice versa.*

Note: *To save over a Factory Sound location, unckeck the Factory Sound Protect parameter in Media mode (see "Factory Sound Protect" on page 236 of the User's Manual).*

Warning: When replacing a Factory Sound, please be warned that all Performance, STSs, Styles and Songs making use of it will be modified as well. Use this feature with great care!

To restore the original data, please use the "Factory Restore" command in the Utility page of the Media mode (see page 235 of the User's Manual for more information).



Name

Name of the Sound to be saved. Touch the T (Text Edit) button next to the name to open the Text Edit window.

Sound Bank

Target bank of Sounds. Use the VALUE controls to select a different bank.

Sound

Target Sound location in the selected bank. Use the VALUE controls to select a different location.

Select...

Touch this button to open the Sound Select window, and select a target location.

Copy Oscillator dialog box

Open this window by selecting the Copy Oscillator item from the page menu. Here, you can copy all settings between oscillators.

From Sound

Touch this button to open the Sound Select window, and select the source Sound.

From Oscillator

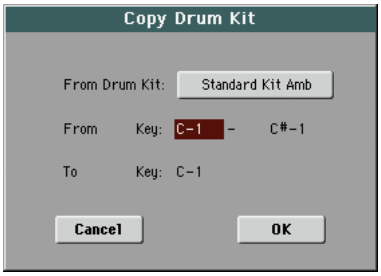
Select the source oscillator to copy from.

To Oscillator

Target oscillator where to copy the source settings to.

Copy Drum Kit dialog box

Open this window by selecting the Copy Drum Kit item from the page menu. Here, you can copy settings from a range of keys of a Drum Kit.



From Drum Kit

Touch this button to open the Sound Select window, and select the source Drum Kit.

From Key

Select the source range of keys to copy from.

To Key

Target key. Settings are copied starting from this key, and upwards.

AMS (Alternate Modulation Source) list

Off	Do not use Alternate Modulation
Pitch EG	Pitch EG
Filter EG	Filter EG within the same oscillator
Amp EG	Amp EG within the same oscillator
LFO1	LFO1 within the same oscillator
LFO2	LFO2 within the same oscillator
Flt KTrk +/+ (Filter Keyboard Track +/+)	Filter keyboard tracking within the same oscillator
Flt KTrk +/– (Filter Keyboard Track +/)	Filter keyboard tracking within the same oscillator
Flt KTrk 0/+ (Filter Keyboard Track 0/+)	Filter keyboard tracking within the same oscillator
Flt KTrk +/0 (Filter Keyboard Track +/0)	Filter keyboard tracking within the same oscillator
Amp KTrk +/+ (Amp Keyboard Track +/+)	Amp keyboard tracking within the same oscillator
Amp KTrk +/ (Amp Keyboard Track +/)	Amp keyboard tracking within the same oscillator
Amp KTrk 0/+ (Amp Keyboard Track 0/+)	Amp keyboard tracking within the same oscillator
Amp KTrk +/0 (Amp Keyboard Track +/0)	Amp keyboard tracking within the same oscillator
Note Number	Note number
Velocity	Velocity
Poly AT (Poly After Touch)	Polyphonic After Touch (transmitted from the Pa3X only as sequence data)
Channel AT (Channel After Touch)	After Touch (Channel After Touch)
Joystick X	Joystick X (horizontal) axis
Joystick +Y	Joystick +Y (vertical upward) direction (CC#01)
Joystick Y	Joystick Y (vertical downward) direction (CC#02)
JS+Y & AT/2 (Joy Stick +Y & After Touch/2)	Joystick +Y (vertical upward) direction and After Touch
JS–Y & AT/2 (Joy Stick Y & After Touch/2)	Joystick Y (vertical downward) direction and After Touch
Assign. Pedal	Assignable foot pedal (CC#04)
Ribbon Ctl.	Ribbon controller (CC#16)
CC#18	CC#18
CC#17	CC#17
CC#19	CC#19
CC#20	CC#20
CC#21	CC#21
Damper	Damper pedal (CC#64)
CC#65	Portamento switch (CC#65)
Sostenuto	Sostenuto pedal (CC#66)
CC#80	CC#80
CC#81	CC#81
CC#82	CC#82
CC#83	CC#83
Tempo	Tempo (tempo data from Sequencer 1 clock or external MIDI clock)
Velocity Plus	Key On and Key Off Velocity are used
Velocity Exp	Velocity with Exponential curve (higher velocity notes are even louder)
Velocity Log	Velocity with Logarithmic curve (higher velocity notes are weaker than with the linear Velocity)

Flt KTrk +/+ (Filter Keyboard Track +/+)

Flt KTrk +/– (Filter Keyboard Track +/)

Flt KTrk 0/+ (Filter Keyboard Track 0/+)

Flt KTrk +/0 (Filter Keyboard Track +/0)

Amp KTrk +/+ (Amp Keyboard Track +/+)

Amp KTrk +/– (Amp Keyboard Track +/–)

Amp KTrk 0/+ (Amp Keyboard Track 0/+)

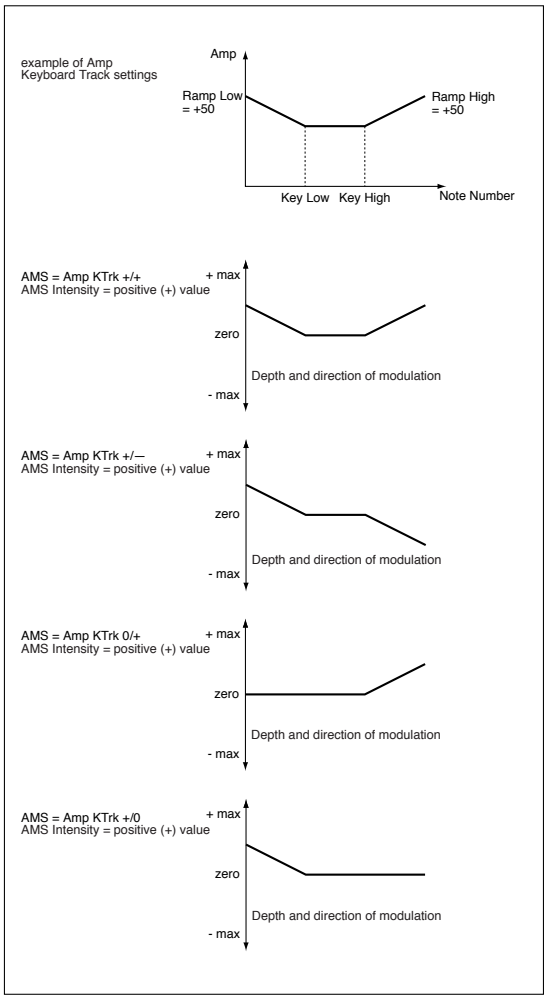
Amp KTrk +/0 (Amp Keyboard Track +/0)

+/+ The direction of the effect will be determined by the sign (positive or negative) of the “Ramp Low” or “Ramp High” setting.

+/– The direction of the effect will be determined by the sign of the “Ramp Low” setting, and by the opposite sign of the “Ramp High” setting (50 for a setting of +50, and +50 for a setting of 50).

0/+ “Ramp Low” will have no AMS effect. The sign of the “Ramp High” setting will determine the direction of its effect.

+/0 The sign of the “Ramp Low” setting will determine the direction of its effect. “Ramp High” will have no AMS effect.



JS +Y & AT/2 (Joy Stick +Y & After Touch/2)

The effect will be controlled by the joystick +Y (vertically upward) and by after touch. In this case, the effect of after touch will be only half of the specified intensity.

JS Y & AT/2 (Joy Stick –Y & After Touch/2)

The effect will be controlled by the joystick Y (vertically downward) and by after touch. In this case, the effect of after touch will be only half of the specified intensity.

Sampling operating mode

Pa3X includes a full-featured sampler, with powerful tools for creating (a) new sounds and (b) rhythm patterns, based on audio grooves.

New Sounds. Sampling allows you to create new sounds, by recording from an external source (e.g., a microphone or a CD player) connected to Pa3X Audio Inputs, or by loading files from a storage device. Pa3X can read common formats, like WAV and AIFF files, Korg Trinity and Triton Samples, Korg Trinity and Triton Multisamples, Korg Triton Programs, and Akai™ S1000 and S3000 Samples and Programs.Trpt & Trbn.

To be used, Samples must then be assigned to a Multisample or a Drum Kit. A Multisample allows you to arrange samples into separate zones of the keyboard. Drum Kits allows you to assign a different sample to each note of the keyboard, with up to six dynamic layers per note.

Multisamples can then be assigned to Sounds. Sounds created with this function can be used as any ordinary Sound, and assigned to any track.

The Load Sample function allows you to read samples (Korg ".KSF", Akai® ".S1" or ".S3", ".AIFF" and ".WAV") from a storage device. The Import function allows to read multisamples (Korg ".KMP") from Korg Trinity and Triton files, and Programs (Akai® ".P1" or ".P3") from Akai S1000 or S3000 CDs. Programs (".PCG" files) can be imported from Korg Triton disks, and converted to Sounds.

You can also use the Export function to export samples (".KSF") and multisamples (".KMP") in Korg proprietary format.

Audio Grooves. Another powerful feature of the Sampling mode is the Time Slice. This feature lets you add realism to MIDI tracks, by using sampled patterns as the rhythm track of a Style.

Cycling rhythm samples, usually named "audio grooves", can be "sliced" into separate percussive instruments. Combined with MIDI tracks, the "sliced" audio groove can be kept in sync with the Tempo, and can play slower or faster than the original groove.

Warning: *When loading a ".SET" folder containing Sounds associated with PCM data, all existing PCM data in memory are deleted. Save them before loading the folder, by selecting the "PCM" option during a Save All operation (see "Saving the full memory content" on page 229 of the User's Manual).*

To see if a ".SET" folder contains PCM data, open it and look for a "PCM" folder.

Hint: *Load single Sounds, if you want to load new PCM data without deleting the ones already contained in memory.*

Note: *No sound will be heard when you first enter the Sampling mode.*

Entering and exiting the Sampling mode

• While in Sound mode, press the RECORD button to enter in Sampling mode.

• While in Sampling mode, press the RECORD button to exit the Sampling mode, and return to the Sound mode.

The Record (Sampling) procedure

Here is a short overview of a typical sampling procedure.

Preparing to record

First of all, you will set the recording levels for sampling.

1. With the MASTER VOLUME slider set to zero, connect the source to be sampled (e.g., a microphone or a CD player) to the relevant Audio Input(s) on the rear of the Pa3X. When the source has been connected, raise the MASTER VOLUME slider to a position other than zero.
2. Go to the "Audio Setup: Audio Input" page of the Global mode to set the signal routing for the input source, and turn the phantom power on in case a condenser microphone has been connected.
3. Press the SOUND button to access the Sound mode, then press RECORD to access the Record page.
4. Choose the input source, by using the "Record Mode" parameter.
5. Adjust the source's volume. If you are recording with a microphone, use the MIC GAIN knob of the Pa3X (next to the MIC connector). If you are sampling from a line source (like a CD player or another instrument), set the source's own output level. If possible, set the output level of the source to be sampled to the maximum.

   Watch at the meters in the display to check the input level. Red means distortion (signal clipping), so ideally, the LED bar should never go to red.

   Also, check the microphone level with the AUDIO IN LED in the MIC SETTINGS section on the control panel. They should never go to red, and stay to orange (green means too low an input signal).
6. Use the "Record Mode" parameter to select the audio input to be sampled.

Recording

Next, you'll record the sound or audio groove.

1. If you can, start first the source to be recorded, then touch the Record button in the display to start recording.

   As an alternative, touch the Record button in the display, and immediately start the source to be recorded.

2. Touch the Record button in the display again to stop recording. When the memory is full, the sampling automatically stops. A maximum of 21.8 seconds is allowed for each sample.

   Note: *Stereo and Mono samples have the same sampling time. This apply only to the editor; memory needed for saving depends on the actual size of the sampled data.*

3. Select a page (tab) different from Record, and play the keyboard to listen to the sampled sound.

4. If you are not satisfied with the recorded sound, return to the Record page and touch the Record button in the display again, to repeat recording. Touch Record again to stop recording. A new sample will be automatically created.

5. When finished sampling your sound, you can save it (see Step A below). If it is an audio groove, continue editing it with the Time Slice function (see Step B below).

A) Saving the sample and creating a Sound

You can save the sample, and create a multisample and a Sound to use it.

1. Select the Write command from the page menu. The Write Sample dialog box will appear (see "Write Sample dialog box" on page 92). Assign a name to the new Sample, and save it to the PCM folder of the internal HD (KHD_SYSTEM). The samples will be preserved when the Pa3X is turned off.

   Note: *The PCM area of the HD can contain up to 128MB of samples (256MB with the optional EXB-M256 expansion board). This amount can double using compression (see "Write" on page 90 and "Compress all samples" on page 92).*

2. After saving, you can repeat the recording procedure to create other samples.

3. When you have recorded and saved all needed samples, press the MENU button and go to the "Multisample" section, to assign the sample(s) to a multisample. Assign each sample to a different keyboard zone of the multisample.

1. When finished editing the multisample, select the Write command from the page menu. The Write Multisample dialog box will appear (see "Write MultiSample dialog box" on page 92). Assign a name to the new multisample, and save it to the internal HD (KHD_SYSTEM).

2. Press RECORD to exit the Sampling mode and return to the Sound mode.

3. You can either use the multisample to create a new Sound, or the single samples to create a new Drum Kit.

   • To access the new multisample, first select an ordinary Sound. Press MENU and go to the "Basic: OSC Basic" page (see page 53). Select one of the available layers, then select the RAM bank of multisamples. Finally, select the new multisample.

   • To access the new sample(s), you must assign them to a Drum Kit. First select a Drum Kit. Press MENU and go to the "DrumKit: Sample Setup (Drum Kits)" page (see page 58). Select a key and a layer, then select the RAM bank of samples. Finally, select the new samples.

4. Select the Write Sound command from the page menu, and save the Sound to an empty User location.

5. If you want so, assign the new Sound to a track, then select the "Write Performance", "Write Current Style Settings" or "Write STS" command from the page menu, to save the Sound to a Performance, Style Settings or STS.

   Hint: *Drum Kits are better suited for the Drum or Percussion track. Assign them to the Style Settings.*

B) Saving an Audio Groove

After recording an audio groove, you must "slice" it to create a series of separate percussive samples, a multisample and a MIDI Groove.

1. Go to the Time Slice page. After creating a series of slices, use the Extend function to refine your groove.

2. Select the Write command from the page menu, to save the sliced samples, a multisample, a Sound and the MIDI Groove. Choose one of the User Sound locations. The Sound, multisample, MIDI Groove and sliced samples are saved to the internal HD (KHD_SYSTEM).

3. Press RECORD to exit the Sampling mode and return to the Sound mode.

C) Using the Groove in other Sounds

You can use the same multisample and sliced samples in other Sounds.

1. To access the new multisample for use in other Sounds, go to the Sound mode.

2. Select an ordinary Sound. Press MENU and go to the "Basic: OSC Basic" page (see page 53). Select one of the available layers, then select the RAM bank of multisamples. Finally, select the new multisample.

3. Select the Write Sound command from the page menu, and save the Sound to an empty User location.

D) Using the Groove in Styles or Pads

Sounds based on sliced samples can be used in Styles or Pads.

1. Assign the new Sound to a Style track (preferably, the Drum or Percussion track) or to a Pad track, then select the "Save Current Style Perf." or "Write Pad" command from the page menu, to save the Style Settings or the Pad.

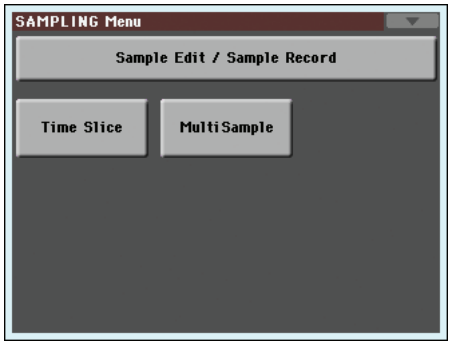
2. Use the "Import: Import Groove" function in the Style or Pad Record mode (see page 27 or page 45 of the User's Manual) to import the generated MIDI Groove to the Style track you assigned the new Sound to. By playing this MIDI Groove with the new Sound, you'll be able to play the original audio groove on the keyboard.

Warning: *Generated MIDI Grooves will be deleted when turning the instrument off. Import them to a Style track before turning the instrument off.*

Edit menu

From any page of the Sampling mode, press the MENU button to open the Sampling edit menu. This menu gives access to the various Sampling edit sections.

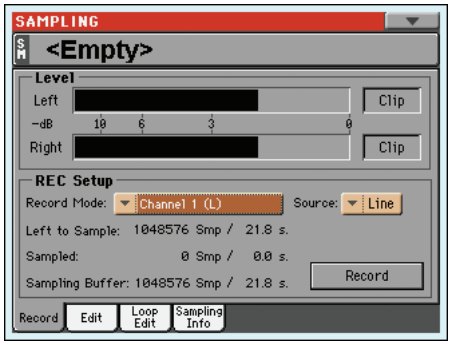
When in the menu, select an edit section, or press EXIT to exit the menu and return to the Sample Edit / Sample Record page. To return to this page, you can also select the Sample Edit / Sample Record menu item.



Each item in this menu corresponds to an edit section. Each edit section groups various edit pages, that may be selected by touching the corresponding tab on the lower part of the display.

Sampling: Record

This page allows you to record a 16-bit, 48kHz stereo or mono sample . While in this page, you will be able to monitor the input signal. The keyboard will not play.



SM (Sample)

Touch this area to open the Choose Sample window, and select one of the available samples to be loaded in the editor.

The window will be automatically closed after selecting.

Level

Use these meters to see the level of the entering signal. When the CLIP indicator turns red, the signal is too hot. Lower it by reducing the source output level, or by using the GAIN knob on the rear panel of the Pa3X.

REC Setup

Record Mode

Use this parameter to choose between the mono or stereo sampling mode, by selecting one or both the line audio inputs (Left / Right) on the back of the Pa3X.

Channel 1 (L) Only the Left Input is selected. A mono sample will be produced.

Channel 2 (R) Only the Right Input is selected. A mono sample will be produced.

Channel 1&2 (Stereo)

Both inputs will be selected. A stereo sample will be produced.

Note: *Whether you record or load a stereo or mono sample, the sample in memory will be treated as if it was stereo. Mono samples*

will be saved as mono files. Stereo samples will be saved as two separate mono files, and will be treated as mono files when reloaded.

Source

Use this parameter to choose either a microphone or a line source as the input.

Line — You can connect a mono or stereo line source to the Left and/or Right audio inputs. Use the "Record Mode" mode parameter (see above) to choose one or both inputs.

Mic — You can connect a microphone to the Mic input. If it is a condenser microphone, after having connected it go to the Global > Audio Setup > Audio In page, and turn the phantom power on (see "+48V Phantom Power" on page 214 of the User's Manual). Use the MIC GAIN knob to set the input level.

Left to Sample

Non editable. Remaining memory (in samples/seconds) for sampling. The maximum space available for samples is 1,048,576 (mono or stereo) samples, or 21.8 seconds.

Sampled

Non editable. Used memory (in samples/seconds) for sampling.

Sampling Buffer

Non editable. Available memory (in samples/seconds) for sample editing.

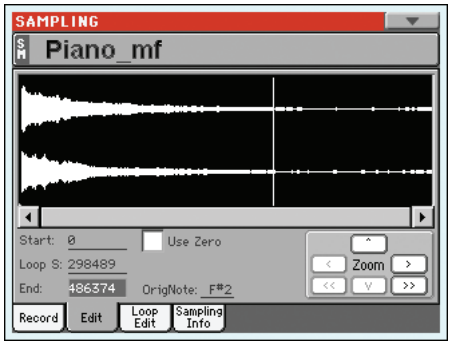
Record

Touch this button to start recording. Touch it again to stop recording. Recording will automatically stop when the maximum available space will end.

Note: *Pa3X always samples at the maximum quality (16 bit, 48,000Hz). Samples of a different quality may be loaded (8 or 16 bit, 11,025Hz to 48,000Hz).*

Sampling: Edit

This page allows you to cut, trim or normalize a sample, as well as edit the loop points. The sample can played on the full keyboard.



SM (Sample)

Selected sample. See "SM (Sample)" above.

Waveform display

This is the graphical display of the selected sample waveform, i.e., the one you can hear when playing the keyboard. The area included between the Start and End points is highlighted (dark background).

Parameters

Start (Sample Start)

This is the sample start point (in samples). You may edit this point, as well as the End point, to shorten the sample. Changing the Sample Start cuts out the attack portion of the sound.

Note: *When moving the "Start" point forward, and reach the "Loop Start" point, this latter is also moved forward.*

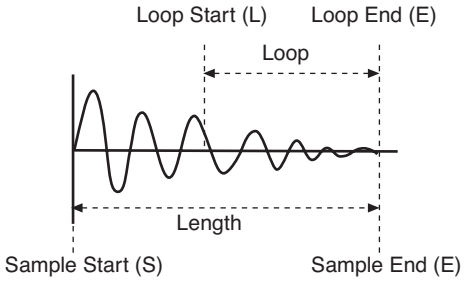
Warning: *When saving the edited sample (Write Sample operation), the segments exceeding the Start and End points are permanently removed.*

Loop Start

Note: *This parameter has no effect, unless you don't turn the loop on. Use the "Loop On" parameter on the "Sampling: Loop Edit" page to turn the loop on (see page 84).*

Use this parameter to adjust the Loop Start point. When you adjust this parameter, an audible click may appear, due to a pitch and/or level mismatch between the starting and ending points of the loop. Move the Loop Start and Loop/Sample End point, so that the click can no longer be heard.

When editing audio grooves, the Loop Start should match the Sample Start point. This parameter usually differs from the Sample Start in ordinary sounds (i.e., a guitar, a piano, a voice…).



End (Sample/Loop End)

This is the sample and loop end point (in samples). You may edit this point, to shorten the sample.

Warning: *When saving the edited sample (Write Sample operation), the segments exceeding the Start and End points are permanently removed.*

Use Zero

If this parameter is turned on, when you move the Start, Loop Start and End points, the selection fall on the nearest zero-crossing point (i.e., points where the waveform crosses the x-axis, and goes from negative to positive, or from positive to negative values). This will make loops more accurate, and will reduce the risk of "clicks".

OrigNote (Original Note)

Original pitch of the sampled note. While this parameter has no effect on sound, it will be useful to identify the original pitch of the sample and when assigning a sample to the multisample.

For example, if you sample a C4, set this parameter to "C4". When the sample will be assigned to a keyboard zone of the multisample, it will be transposed (if needed) according to this parameter, to avoid a change of the original pitch.

Zoom

Use these buttons to change the size of the waveform shown in the diagram. When a button is greyed-out, it means the maximum or minimum value has been reached.


Increase the vertical size.


Decrease the vertical size.


Increase the horizontal size.


Decrease the horizontal size.


Full zoom in.


Full zoom out.

Changing the sample length and finding good-sounding loop points

To adjust the sample length and loop points, check the "Loop On" parameter, then use the "Start", "Loop Start" and "End" parameters to create a fine sounding cycling loop.

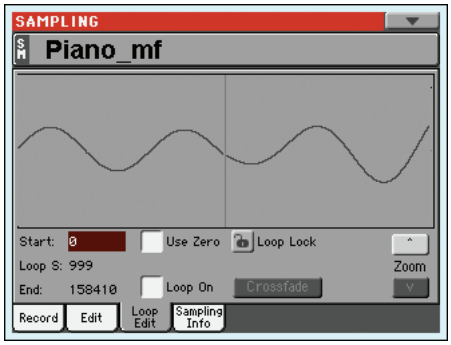
For example, you may have sampled an audio groove of an exceeding length. Use the "End" parameter to cut the exceeding portion at the end of the sample, and adjust the starting point of the loop using the "Start" or "Loop Start" parameters.

Usually, checking the "Use Zero" parameter is a big help, to avoid the loop clicks due to level mismatches.

Sampling: Loop Edit

The loop is a cycling portion of a sampled sound. It is a technique used to reduce the sampling time, cycling a portion of the sound to create the sustain phase of the sound. After the attack stage, most sounds repeat the same waveform during their sustain stage. You may adjust the Loop Start point with the "Loop Start" parameter, and the Loop End point (always matching the Sample End point) using the "End" parameter.

This page lets you fine tune the loop points, by watching at the Loop End and Loop Start points matching at the center of the diagram. A good-sounding loop is shown as a continuous, non-breaking line.



SM (Sample)

Selected sample. See "SM (Sample)" on page 81.

Loop diagram

This diagram shows the "End" (Loop End) point on the left half, and the "Loop Start" point on the right half of the screen. Use the "End" and "Loop Start" parameters to adjust the loop.

Parameters

Start

See "Start (Sample Start)" on page 82.

Loop Start

See "Loop Start" on page 82.

End

See "End (Sample/Loop End)" on page 83.

Use Zero

See “Use Zero” on page 83.

Loop Lock

This fixes the length of the loop being edited.

Off — The “Loop S.” and “End” parameters can be edited separately.

On — When the “Loop S.” or “End” parameter is edited, the other one will be automatically adjusted so that the distance between them (i.e., the loop length) does not change. This is convenient when you are creating a rhythm loop to match a specific tempo.

Loop On

Use this parameter to turn the loop on or off.

On — The loop is turned on, and the portion of sound included between the Loop Start and Loop End points will cycle until a key is kept pressed. If the “Loop Start” point matches the “Start” point, the whole sample is cycled.

When the loop is turned on, a vertical yellow line, showing the loop point, appears in the waveform display.

Off — The loop is turned off. The sound will play from the Sample Start to the Sample End point only once, even if you keep a key pressed on the keyboard.

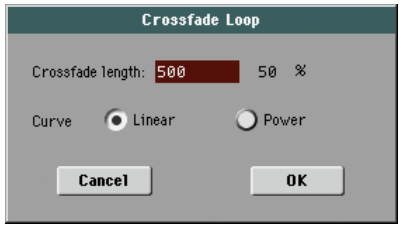
Crossfade

When looping the pitched sample of a complex sound such as strings or woodwinds to make the sound sustain, it is necessary to create a long loop to preserve the rich character of the sound. Crossfade Loop can be used to minimize the difference in pitch and level between the beginning and ending of the loop region, to create a natural-sounding loop. In order to solve such problems, Crossfade Loop causes the sound to change gradually from the end to the beginning of the loop.

In practice, here is how it works. A specific length (the “Crossfade Length” value) of the waveform immediately before the beginning of the loop is taken and mixed with the end portion. At this time, the waveform level of the portion immediately before the end (the length specified by “Crossfade Length”) will gradually decrease, and the waveform level immediately before the beginning of the loop will gradually increase as the two are mixed.

When the “Loop On” parameter is checked, and the “Start” and “Loop S.” parameters have different values, the “Crossfde” button becomes available.

When you touch the Crossfade button, the Crossfade Loop dialog box appears:



Crossfade Length

In “Crossfade Length,” specify the length of the sample that you wish to crossfade. You can enter it either as the number of samples, or a percentage (%). If you set this as a percentage, the number of samples will be calculated automatically.

If you set this to 50%, crossfade will be performed on the second half of the region between loop start and loop end.

The “Crossfade Length” cannot be greater than the smaller length between the Sample Start – Loop Start points, or the Loop Start – Sample End points.

Curve

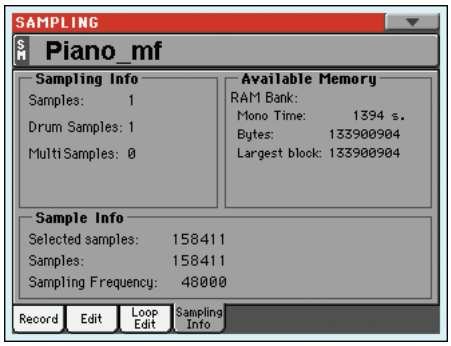
Set “Curve” to specify how the volume will change in the crossfaded region.

Linear — The volume will change linearly.

Power — The volume will change non-linearly. Sometimes a setting of Linear will produce the impression that the volume has dropped in the middle of the crossfade curve. In such cases, use Power.

Sampling: Sampling Info

Use this page to see detailed info on the sample in edit. General information for the RAM memory is also available.



SM (Sample)

Selected sample. See “SM (Sample)” on page 81.

Sampling Info

Samples

Number of samples in memory.

Drum Samples

Number of drum samples in memory.

Multisamples

Number of multisamples in memory.

Available Memory

RAM Bank

Pa3X comes with 128MB of RAM already installed, and can be expanded up to 256MB with the optional EXB-M256 board. This is the maximum amount of non-compressed samples that can be loaded or recorded.

In case you need more PCM Sample memory, and you have already installed the optional memory expansion, you can compress the samples and then load up to 512MB of samples (see “Compress all samples” on page 92).

Mono Time

Remaining sample memory (in seconds). This value is given for mono samples. With stereo samples, this time has to be halved.

Bytes

Remaining memory for sampling (in Bytes). This value is given for mono samples. With stereo samples, this time has to be halved.

Sample Info

Selected Samples

Size of the selected sample (in samples).

Samples

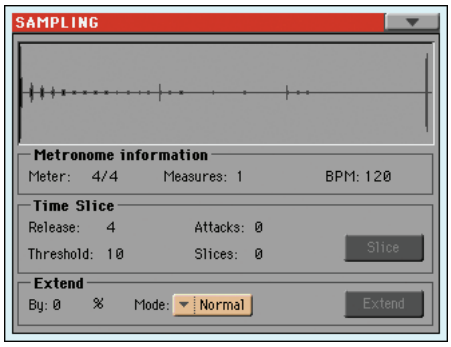
Total size of the samples in memory (in samples).

Sampling Frequency

Sampling frequency of the selected sample (in Hertz).

Time Slice

The Time Slice function lets you transform a rhythm audio groove in a series of single percussive samples, to be assigned to the Drum or Percussion track of a Style or a Song.



How timeslice works

Analyzing and processing. This function detects the attacks (e.g., kick and snare) inside a rhythm audio groove (a sample that loops a drum pattern), and automatically divides the audio groove into individual percussive samples.

The divided percussive samples will be automatically assigned to different keys in a multisample, and the multisample to a Sound.

Within the generated multisample, a separate sample is assigned to a different note on the keyboard, starting from C#3. By playing an ascending chromatic scale with this multisample, you could recreate the original audio groove.

A MIDI Groove will also be created, containing a sequence of notes triggering the sliced percussive samples in the same order as in the original audio groove (i.e., it plays an ascending chromatic scale starting from C#3).

When you will import this MIDI Groove to the percussive track of a Style (see “Import: Import Groove” on page 27 of the User’s Manual), this sequence will let you adjust the groove’s tempo without affecting the pitch of the percussive samples.

In addition to changing the groove’s tempo without affecting its pitch, this lets you do the following:

- change the order in which notes are played
- change the timing
- edit the pattern notes to freely recreate a new rhythm loop.

Saving. After the slicing, you can select the Write command from the page menu, to save the Sound based on sliced samples, and the MIDI Groove containing the corresponding MIDI sequence.

• The Sound will be saved to the selected location in the User area of the internal HD (KHD_SYSTEM). You will be able to select it as an ordinary Sound, and assign it to the Drum or Percussion track of a Style.

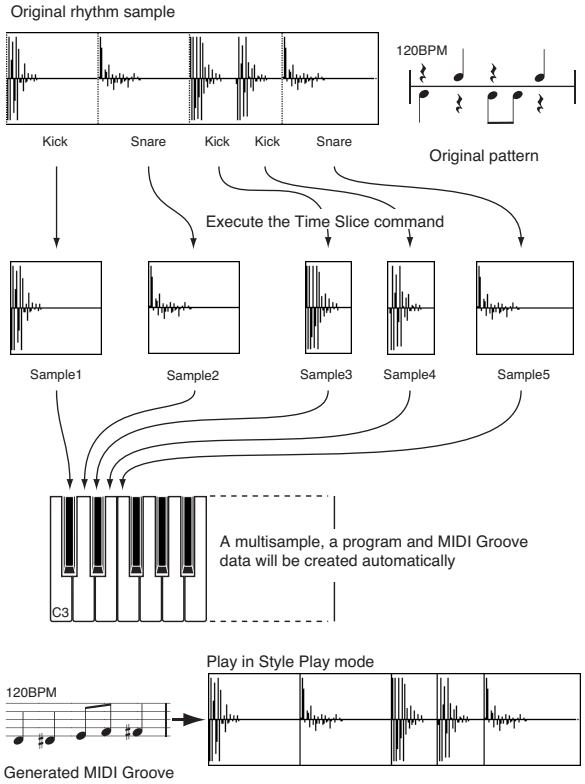
• The Multisample will be automatically saved to the next free available location.

• Samples will be permanently saved to the internal HD (KHD_SYSTEM).

• The MIDI Groove will be temporarily saved to the internal HD (KHD_SYSTEM), and will be available only when using the Import function of the Style Record mode (see “Import: Import Groove” on page 27 of the User’s Manual).

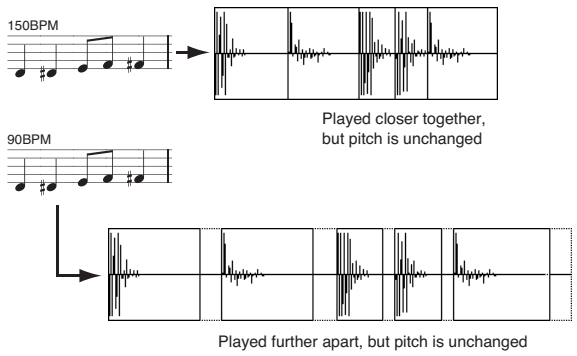
Warning: *All MIDI Grooves will be delete each time the Pa3X is turned off.*

Ex.1 - Generating samples and MIDI Groove data:



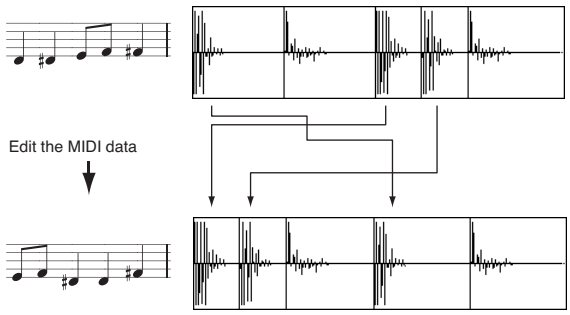
Note: Sliced samples and MIDI data are saved with a Write operation.

Ex.2 - Varying the groove's tempo



Note: To vary the groove's tempo, you must first import the generated MIDI data into the Percussion track (Import function of the Style and Pad Record mode), and assign the new generated Sound to the Percussion track.
Gaps between sliced samples, when slowing down the tempo, can be automatically filled by the Extend function, smoothing each sample's tail.

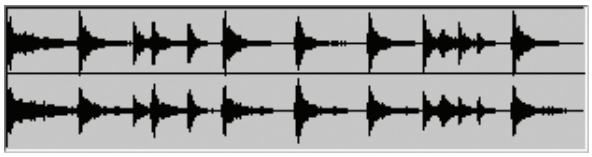
Ex.3 - Recombining MIDI notes and samples



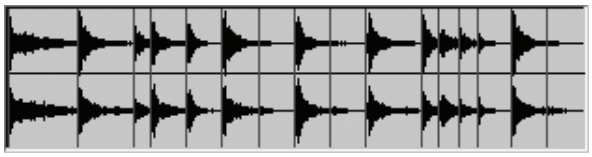
Note: To recombine notes inside the generated MIDI sequence, you must first import the MIDI data in Style or Pad Record mode, by using the "Import" function. Then, use the Event Edit to change the note order.

Sample diagram

This diagram shows the sample waveform and the slices. Here is how the sample diagram appears before the Slice:



… and the same diagram after the Slice:



Metronome Information

Meter

Use this parameter to specify the Meter of the original sample.

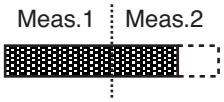
Measures

Use this parameter to specify the number of measures of the original sample. Usually, you will load a groove 1- or 2-measures long.

BPM

This parameter specifies the tempo (in Beats Per Minute) of the original sample. Pa3X automatically calculates this value based on the Start, End (see page 82), Meter and Measures parameters.

The BPM can be only adjusted to values lower than the one automatically calculated. This can be useful, for example, when the actual sample is shorter than the entered Meter and Measures values.



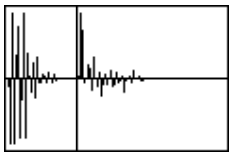
In the above example, the actual groove lasts only up to the first half of Measure 2. The recognized tempo is 130, while the real tempo is 100. Set the BPM value to 100, and a rest will be added to the end of the groove, to allow it to loop seamlessly.

Time Slice

See "The Time Slice procedure" on page 88 for more information.

Release

Adjust the value of this parameter to change the number of recognized attacks, by varying the speed needed to the Slice engine to start working again. For example, in the following example, if the Release value is too high (i.e., too long), the second attack may be lost:



Note: *After changing the Release value, you must select the Slice command again.*

Threshold

This parameter varies the threshold over which the attacks are recognized (i.e., the Time Slice sensitivity). If it is too low, weaker attacks may be ignored.

Note: *After changing the Threshold value, you are not obliged to select the Slice command again. The Slices value is immediately changed.*

Attacks

This (non-editable) parameter shows the number of attacks recognized. More than one attack may be recognized in a single slice. Adjust the Release and Threshold parameters to change the number of recognized attacks.

Slices

This (non-editable) parameter shows the number of generated slices, i.e. generated samples and notes in the midifile. To change this value, edit the Release and Threshold parameters.

Note: *You can have a maximum of 100 slices.*

Slice

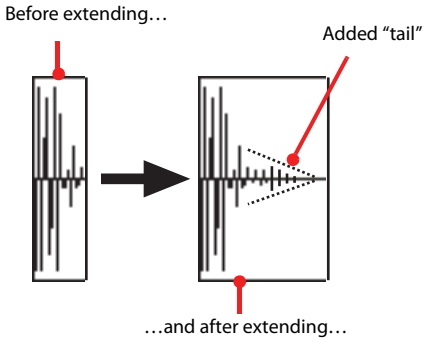
Select this command to execute the Slice after entering the Time Slice page, or changing the Release value. This command is "ghosted" (i.e., non-selectable) if no sample has been recorded of loaded yet.

The Time Slice operation is executed on the sample, from the "Start" to the "End" point set in the Sample Edit / Sample Record section.

Extend

See "The Extend procedure" on page 89 for more information.

When using a sliced groove with a tempo slower than the original, an annoying gap may be heard between a sample and the following one. The Extend function allows you to fix this problem by adding a "tail" to all samples, making their decay smoother and more musical.



Note: *You can use the Extend function only after a Time Slice operation.*

Note: *The Extend function increases the original sample size.*

By

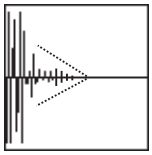
Use this parameter to set the length of the "tail" added to the samples (in percentage). The higher this value, the greater the size of the samples. A setting of 20-30% is usually suitable to most grooves.

Caveat: *With higher "By" values, the Extend function may add audible artifacts.*

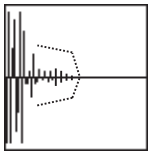
Mode

This parameter specifies if the added "tail" must decay in a linear way, or sustain for a longer time and then fall suddenly.

Normal — This option is most suitable for percussive sound with a short (but not immediate) decay. The "tail" envelope is linear, and the level decays fast.



Long — This option is most suitable for cymbals, whose sound should be sustained up until the next note. The "tail" envelope is sustained and falls slowly, then falls suddenly next to the end.



Extend

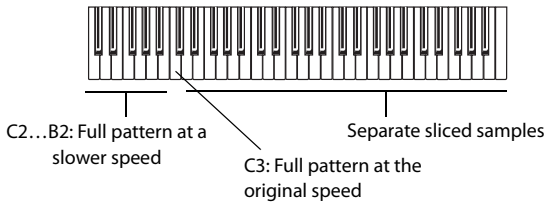
Touch this button to execute the Extend command. After you select it, it will return "ghosted", meaning that you can't select it again. If you change any of the parameters in this page, it will be available again.

The Time Slice procedure

Before executing a Slice operation, you must record or load a sample. Then, you may edit the sample on "Sampling: Edit", then execute the Slice operation on this sample.

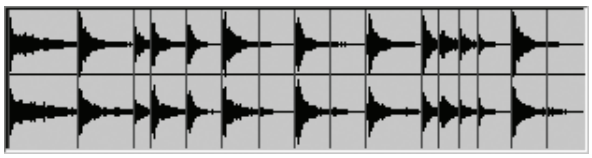
1. After recording or loading a sample, go to the Time Slice page.
2. Pa3X automatically calculates the BPM parameter, based on the given Meter and Measures values. If you know these data, set the Meter, Measures and BPM (Beats Per Minute) parameters. This would make the slicing more accurate.
3. Select the "Slice" command.

   The original sample will be sliced, and each generated sample assigned to a different key:



Key	Assigned sample/pattern	Speed %
C2	Full pattern cycling at half the speed	50%
C#2	Full pattern cycling at various speeds	53%
D2		56%
D#2		60%
E2		63%
F2		67%
F#2		71%
G2		75%
G#2		80%
A2		84%
A#2		89%
B2		94%
C3	Full pattern cycling at the original speed	100%
C#3 and above	Separate sliced samples	–

A MIDI Groove with the original pattern will also be generated. The screen will change, to show slices separated by vertical lines:



4. Test the generated sliced drum kit on the keyboard.

   • To test the full pattern at different speed, play a note from C2 (half speed) to C3 (original speed). See table above.

   • To test the single sliced samples, play notes from C#3 and above. If you play a full chromatic scale, the original pattern will be sounded.

   Hint: *If too many samples have been generated, and the keyboard can't fit them all, use the OCTAVE buttons to transpose the keyboard, and listen to samples exceeding the upper limit.*
5. If the Slice didn't produce satisfactory results, adjust the Release parameter. If this does not produces good results, try adjusting the Threshold parameter, too. After adjusting the Release parameter, you must execute the Time Slice again.
6. Since a tempo value rounding happens when making a Time Slice operation, and the loop may not be accurate, you may need to adjust both the "Start" and "End" parameters of the "Sampling: Edit" page, to make the groove loop flawlessly. After editing these parameters, you must execute the Time Slice again.

   Go on experimenting different settings! Editing an audio groove is a pure matter of experimentation.
7. When the Slice is completed, you can save the sliced samples and the MIDI Groove, or use the Extend function to improve the quality of the slices.

   Select the Write command from the page menu. The Write Slice dialog box will appear (see "Write Slice dialog box" on page 92). Assign a name to the new Sound, and save it to an User Sound location.

   A MIDI Groove with the same name will also be saved to the internal HD (KHD_SYSTEM). Be warned, that this area will be deleted when turning the instrument off. Convert it to an internal Style pattern, by using the Import function of the Style or Pad Record mode, before turning the instrument off.

   • To improve the quality of the slices, use the Extend function (see "Extend" below).
8. After saving, you may press RECORD to exit the Sampling mode.
9. After exiting the Sampling mode, you may load the generated MIDI Groove by using the Import function of the Style Record mode (see "Import: Import Groove" on page 27 of the User's Manual for more information).

The Extend procedure

1. Set the **By** parameter, according to the tempo of the groove you will use. If you will slow down the groove very much, assign higher values to this parameter, otherwise you may assign lower values.
2. Select the Extend **Mode**. "Long" is more suitable for cymbals.
3. Select the Extend command.
4. After the Extend operation is complete, test the full pattern at different speed, by playing notes from C2 (half speed) to C3 (original speed). See table on page 88.
5. If the Extend didn't produce satisfactory results, change the settings. Any previously made change will be deleted.
6. When the Extend is completed, you can save the sliced and extended samples and the resulting MIDI Groove to the internal HD (KHD_SYSTEM).

   Select the Write command from the page menu. The Write Slice dialog box will appear (see "Write Slice dialog box" on page 92). Assign a name to the new Sound, and save it to an User Sound location.

   A MIDI Groove with the same name will also be saved to a reserved area of the internal HD (KHD_SYSTEM). Be warned, that this area will be deleted when turning the instrument off. Convert it to an internal Style pattern, by using the Import function of the Style Record mode, before turning the instrument off.
7. After saving, you may press RECORD to exit the Sampling mode.
8. After exiting the Sampling mode, you may load the generated MIDI Groove by using the Import function of the Style or Pad Record mode (see "Import: Import Groove" on page 27 of the User's Manual for more information).

Multisample: Edit MS

The Multisample is a way of organizing several samples on the keyboard. Each sample is assigned to a Keyboard Zone (or Index), with a higher and a lower limit.

A Multisample is then assigned to a Sound (see "Basic: OSC Basic" on page 53), where it is enriched with several performance parameters, like Amplitude Envelope, LFO, Filters, etc…

MS (MultiSample)

Touch this area to open the Choose Multisample window, and select one of the available multisamples in memory.

Keyboard diagram

This diagram shows the selected Index/Zone (highlighted), and its Original Note (in red). Use the big "–" and "+" button on its side to scroll the diagram one octave lower or upper.

Multisample Setup

Index

Index number of the selected Zone of the multisample / total number of Zones in the multisample. A Zone always corresponds to a single sample.

When you play a note on the keyboard, the corresponding index number is automatically selected.

Sample Number / Name

Number / name of the sample assigned to the selected zone of the multisample.

Original Note

Use this parameter to automatically transpose the assigned sample on the keyboard. When you play this note, the sample sounds exactly as it was recorded.

At first, it matches the "OrigNote (Original Note)" value assigned when editing the sample (see page 83). This will speed up the programming.

The note set with this parameter is also shown in red in the virtual keyboard diagram.

Level

Relative level of the selected zone. This value can only be negative.

Pitch

Fine tuning of the selected sample in cents (1 cent = 1/100 of a semitone).

From ... To

Range of the selected Zone (or Index). The minimum size is one key. When reducing the range of a zone, the adjacent one is automatically increased to fill the gap.

Hint: *To create a silent zone, create it and assign no sample to it.*

Buttons

Insert

Touch this button to split the current zone in half, and create a new zone (Index) on the left of the selected one.

Add

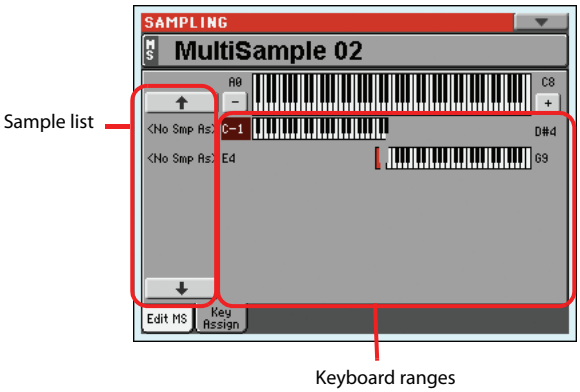
Touch this button to add a new zone (Index) after the last one.

Delete

Touch this button to delete the selected Zone/Index. The zone on the right of the deleted one is automatically extended to fill the gap.

Multisample: Key Assign

Use this page to see and edit the samples assigned to each Keyboard Range/Index in the multisample. This page gives a better display of the assigned samples and their range on the keyboard.



MS (MultiSample)

See “MS (MultiSample)” on page 89.

Sample list

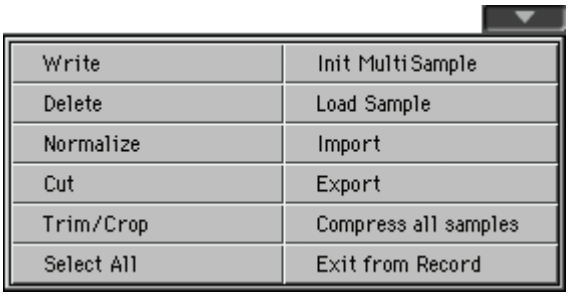
List of samples assigned to the selected multisample. Use the big button with an arrow on top and to the bottom of the list to scroll the list up or down.

Keyboard ranges

Next to each sample name the low and high Zone limits appear. Edit these values to change the Zone range. The Original Note is shown in red.

Page menu

Touch the page menu icon to open the menu. Touch a command to select it. Touch anywhere in the display to close the menu without selecting a command.



Write

Select this command to open the Write Sample, Write Multisample or Write Slice dialog box (depending on the page you are in), and do the following:

- ***Write Sample:*** Saves the sample to the internal HD (KHD_SYSTEM). See “Write Sample dialog box” on page 92, for more information.
- ***Write Multisample:*** Saves the multisample to the internal HD (KHD_SYSTEM). See “Write MultiSample dialog box” on page 92 for more information.
- ***Write Slice:*** After a Time Slice opration, saves the Sound and Multisample to the internal HD (KHD_SYSTEM), and the sliced Samples to the internal HD (KHD_SYSTEM). See “Write Slice dialog box” on page 92 for more information.

Delete

Select this command to open the Delete Sample or Delete MultiSample dialog box (depending on the page you are in):

- ***Delete Sample:*** Deletes one or all samples and multisamples from the hard disk. See “Delete Sample dialog box” on page 93 for more information.
- ***Delete MultiSample:*** Deletes a multisample, or all samples and multisamples from memory. See “Delete Multisample dialog box” on page 93 for more information.

Normalize

Select this command to automatically rescale the level of the selected sample. Peaks will be raised to -0dB (i.e., maximum volume before clipping), while the remaining parts of the sample will be proportionally raised.

Normalization optimizes the sample’s level relative to other samples, making all samples sound more uniformly. It also helps optimizing signal/noise ratio, by preventing further stages of amplification from increasing any residual noise.

Cut

Select this command to cut the selected part of the sample (inside the “Start” and “End” points).

Trim/Crop

Select this command to cut all parts of the sample out of the selected range (i.e., out of the "Start" and "End" points).

Select All

Use this command to select the whole sample.

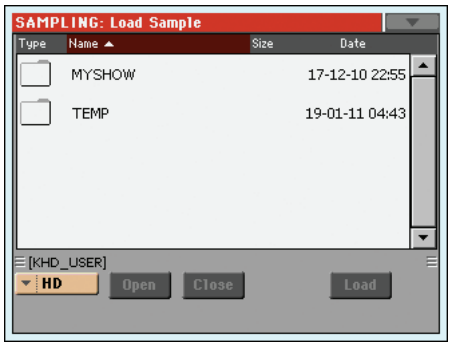
Init Multisample

Only available in the Multisample page. Select this command to create a new, blank multisample. Only one Zone will be available, with no sample assigned.

Load Sample

Use this command to load single samples (mono or stereo), in KSF, AIFF or WAVE format.

Warning: *By loading new samples, the sample currently in edit will be lost if not saved. Before loading, use the Write command to save the sample in edit, if not yet saved, to the internal HD (KHD_SYSTEM).*



The samples are loaded to the editor. Before leaving the Sampling mode, use the Write command to save any unsaved sample to the internal HD (KHD_SYSTEM) as a New Sample.

- "KSF" is Korg's native sample format, used by the Trinity and Triton series of workstations, as well as the Pa-series arrangers. The file name must have the ".KSF" extension.
- "S1" is Akai S1000, and "S3" is S3000 native sample format.
- "AIFF" is the Apple® Macintosh© preferred format for audio. The file name must have the ".AIF" extension.
- "WAVE" is the Microsoft© Windows© preferred format for audio. The file name must have the ".WAV" extension.

Note: *You can only load samples in a 8 or 16-bit resolution, and a sampling frequency rate from 11,025 to 48,000Hz. Loaded samples always preserve their original resolution.*

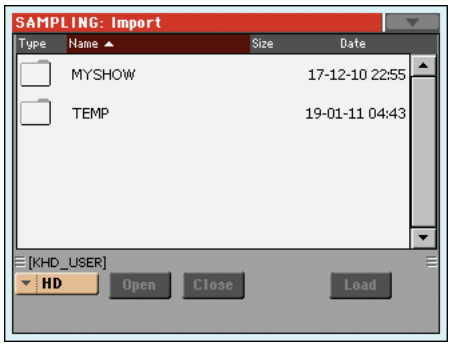
Note: *If the sample exceeds the maximum size allowed by the Pa3X (1,048,576 samples, corresponding to 1 Megasample, either mono or stereo), it will be truncated. A warning will appear in the display.*

Note: *Compressed samples have an asterisk (*) next to their name.*

Hint: *While in this window, you can use the Search function, allowing for searching a Sample file in the various media. See "Searching files and musical resources" on page 109 of the User's Manual for more information.*

Import

Use the Import command to import complex formats, i.e., sounds, multisamples and samples in non-native (i.e., non-Korg) formats.



With this command, you can import the following formats:

- "PCG" is Korg's native Program format, used by the Trinity and Triton series of workstations. The file name must have the ".PCG" extension. *Note that Drum Kits cannot be imported.*
- "KMP" is Korg's native multisample format, used by the Trinity and Triton series of workstations. The file name must have the ".KMP" extension.
- "P" is Akai S1000 and S3000 native Program format (including the sample key assignation, or multisample).

Imported Sounds and Multisamples are automatically stored in the internal HD (KHD_SYSTEM), so that they will not be lost when turning the instrument off.

Note: *While Pa3X and Triton share most of their internal multisamples, some of them may differ. While reading a PCG file, Pa3X tries to use exactly the same multisamples as in Triton. If this is not possible, it looks for a similar multisample. If this too is not possible, an <empty> multisample will be selected. Enter the Sound Edit mode, and select a multisample suitable for the imported Program.*

Note: *Not all Triton's PCG data are imported. Insert FX, EQ, Arpeggio, Combi, Global and Drum Kit data are not loaded.*

Note: *You cannot import Drum Kits.*

Note: *Multisample may contain many different samples. They are assigned to the same keys as in the original file.*

Hint: *When importing a KMP file, take note of the selected multisample name; you will need it in Sound Edit mode, when assigning the multisample to a new Sound.*

Hint: *While in this window, you can use the Search function, allowing for searching a Sample file in the various media. See "Searching files and musical resources" on page 109 of the User's Manual for more information.*

Export

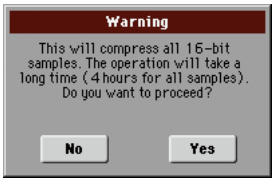
Depending on wheter you are in the "Sample Edit / Sample Record" or "Multisample" section, this command allows you to export a sample in one of two popular computer audio file formats (WAVE and AIFF), or a multisample in a Korg ".KMP" file.

See "Export Sample page" on page 93, or "Export Multisample page" on page 94 for more information.

Compress all samples

When there is no more space in the Sample memory for your samples, you can compress the samples. With the optional EXB-M256 Sample RAM expansion, this will allow to load up to 512MB of samples.

Note: *Compressing the whole content of the Sample memory can last up to four hours.*



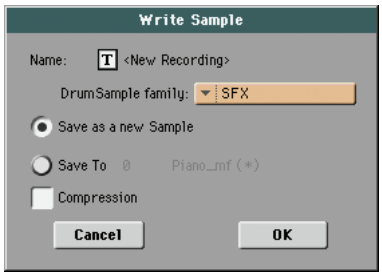
Compressed samples will have an asterisk (*) next to their name.

Exit from Record

Choose this command to exit from the Sampling mode.

Write Sample dialog box

Open this dialog box by selecting the Write command from the page menu, while in the Sample Edit / Sample Record section. In this dialog box you can save the sample to the internal HD (KHD_SYSTEM).



To assign a different name to the sample, touch the T (Text Edit) button to open the Text Edit window.

In case you are saving a percussive sample, choose a Drum Sample family to be assigned to.

Select an option to choose a memory location where to save the sample:

- Select “Save as a new Sample” to save to a new location.
- Select “Save to” to overwrite an existing location. ***Warning:*** *The older sample at the same location will be deleted!*

You can also check the “Compress” checkbox to save the sample in a compressed format. This operation could reduce the size of the sample up to a half. Please note the compression procedure can require a very long time.

Compressed samples will have an asterisk (*) next to their name.

Write MultiSample dialog box

Open this dialog box by selecting the Write command from the page menu, while in the Multisample section. In this dialog box you can save the multisample to the internal HD (KHD_SYSTEM). Multisamples are a way to organize samples on the keyboard, and are used by Sounds as their basis.

To assign a different name to the multisample, touch the T (Text Edit) button to open the Text Edit window.

Select an option to select a memory location where to save the sample:

- Select “Save as a new MultiSample” to save to a new location.
- Select “Save to” to overwrite an existing location. ***Warning:*** *The older multisample at the same location will be deleted!*

Write Slice dialog box

Open this dialog box by selecting the Write command from the page menu, while in the Time Slice page. In this dialog box you can save the Sound, sliced Samples and Multisample generated by the Time Slice function, together with the generated MIDI Groove.

The Sound will be saved to the selected User bank location in the internal, non-volatile memory. The Multisample will be saved to a free location in the same memory. Samples will be saved to the internal HD (KHD_SYSTEM).

Note: *The MIDI Groove is automatically saved in a reserved, temporary location, and is automatically deleted when turning the instrument off. So, import it (by using the “Import: Import Groove” function in Style or Pad Record mode, see page 27 of teh User’s Manual), before turning the instrument off.*

Warning: *The older Sound at the target location will be deleted!*

Name

To assign a different name to the Sound, touch the T (Text Edit) button to open the Text Edit window.

Sound Bank

Target bank of Sounds. Each bank corresponds to one of the SOUND buttons. Use VALUE controls to select a different bank.

Sound

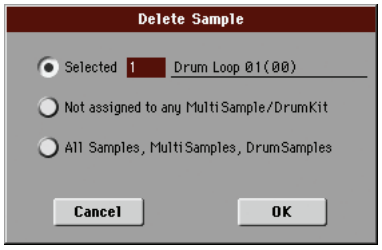
Target Sound location in the selected bank. Use VALUE controls to select a different location.

Select...

Touch this button to open the Sound Select window, and select a target location.

Delete Sample dialog box

Open this dialog box by selecting the Delete command from the page menu, while you are in any page of the Sample Edit/Sample Record section.

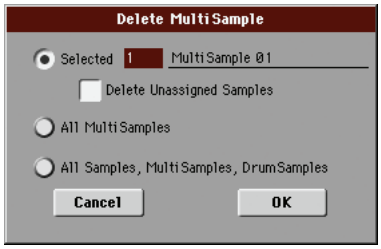


- Select "Selected", and select a sample number, to delete just one of the samples from the internal HD (KHD_SYSTEM).
- Select "Not assigned to any Multisample/Drumkit" to delete only samples not yet assigned to a multisample or drumkit (see paragraphs on the "Multisample" section, starting from page 198).

  Note: *Use this option with care, since you may delete samples you would like to preserve, that have not yet been assigned to a multisample or drumkit. Use it only when you are sure all desired samples have been assigned to a multisample or drumkit.*
- Select "All Samples, Multisamples, Drum Samples" to delete all samples, multisamples and drum samples from the internal HD (KHD_SYSTEM). This operation completely resets the RAM, and may be used to "clean-up" any trouble.

Delete Multisample dialog box

Open this dialog box by selecting the Delete command from the page menu, while you are in any page of the Multisample section.



- Select "Selected", then a multisample number, to delete just one of the multisamples from memory.

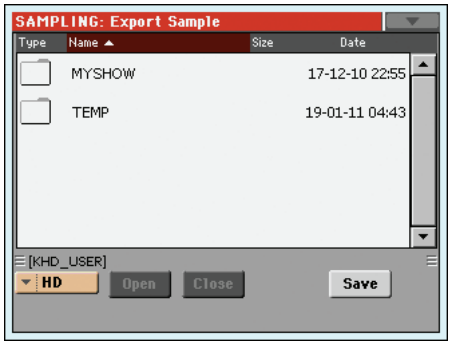
  Check the "Delete Unassigned Samples" option, to also delete all samples not assigned to a different multisample. By checking this option, all samples assigned to the multisample you are deleting, and all samples not assigned to a different multisample, will be deleted.

  Note: *Use this option with care, since you may delete samples you would like to preserve, that have not yet been assigned to a multisample or drumkit. Use it only when you are sure all desired samples have been assigned to a multisample or drumkit.*
- Select "MultiSamples" to delete all multisamples. No samples will be deleted, including those associated with the deleted multisamples.
- Select "All Samples, Multisamples, Drum Samples" to delete all samples, multisamples and drum samples from the internal HD (KHD_SYSTEM). This operation completely resets the RAM, and may be used to "clean-up" any trouble.

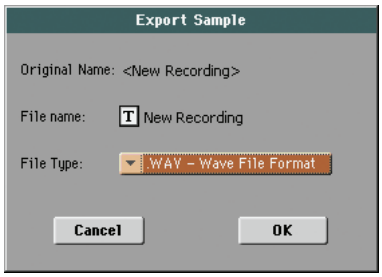
Export Sample page

Open this page by selecting the Export command from the page menu, while you are in any page of the Sample Edit/Sample Record section.

First of all, select the target location where to export the sample:



Then touch the Save button to see the Export Sample dialog box:



Original Name

Name of the sample being exported.

File Name

Name of the generated file on the storage device.

File Type

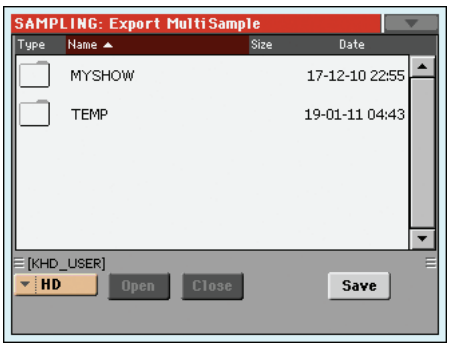
Either of the file types you can choose as the file format.

WAV	Microsoft Wave format, very common on Windows PCs.
AIFF	Apple's Audio Interchange File Format, standard on the Macintosh.

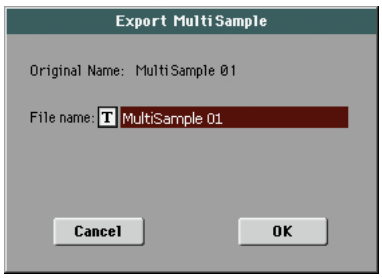
Export Multisample page

Open this page by selecting the Export command from the page menu, while you are in any page of the Multisample section.

First of all, select the target location where to export the multisample:



Then touch the Save button to see the Export MultiSample dialog box:



By using this function, you can export from the internal HD (KHD_SYSTEM) the multisample in edit in the Multisample section, and all linked samples. The Export operation generates a ".KMP" file (Korg's proprietary file format for multisamples), and a folder containing a series of ".KSF" files (Korg's proprietary file format for samples) inside the same directory.

Note: *When exporting a stereo multisample, be careful to assign a different name to the Left and Right channel files, to avoid overwriting. A "-L" and "-R" suffix is usually added after the name of this kind of files.*

How to merge PCM samples from various sources

When you load a .SET folder, all PCM samples in memory are deleted. To merge samples from several sources, do the following.

1. Load a .SET folder containing samples you want to merge with other samples.
2. Load single Sounds from other .SET folders.
3. Load or import Samples from other sources (Trinity, Triton, Akai, Wav, Aiff files).
4. Save the .SET folder, over the same or a new .SET folder.

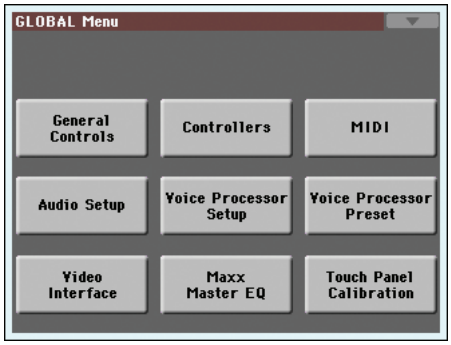
Voice Processor

The Voice Processor applies effects, doubling and four-part harmony to your voice. Some dedicated controllers on the control panel (MIC SETUP section) allows you to quickly access the most often used functions.

In addition, you can edit the Voice Processor Setup (general settings for the singer's voice) and Presets (programming of various effects) in the dedicated pages of the Global edit mode, described in this chapter.

Accessing the Voice Processor edit pages

While in the Global edit mode, press the MENU button to access the edit section menu:

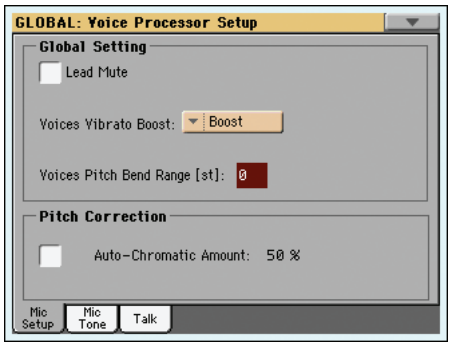


When this page appears, touch either the Voice Processor Setup or the Voice Processor Preset item to access the relevant edit pages.

An alternative way to access these pages is to keep the SHIFT button pressed, and press either the MIC (Setup page), HARMONY (Harmony page) or DOUBLE (Double page) button on the control panel.

Voice Processor Setup: Setup

In this page you can set some general parameters for the Setup.



Global Setting

Lead Mute

▸GBL^{VPs}

This checkbox allows you to turn the lead voice on or off.

Voice Vibrato Boost

▸GBL^{VPs}

Specifies how the Mod Wheel message affects vibrato if it is enabled in a preset. The Boost setting (default) will add more vibrato once the part of the wheel movement reaches the corresponding amount of vibrato and then returns to the original amount at rest position. The Manual setting allows full range control of vibrato once the wheel is moved.

Voices Pitch Bend Range

▸GBL^{VPs}

Sets the range in semitones that Pitch Bend information will alter voice pitch shifts.

Pitch Correction

(Pitch Correction) On/Off

▸GBL^{VPs}

Checking this checkbox activates auto chromatic pitch correction. For most applications, this is all that is required to set this feature. There is no need to set any Key or Scale parameter; all notes that you sing in the 12-tone Western chromatic scale are corrected to the nearest scale tone.

This type of vocal pitch correction is quite subtle at its factory setting of 50% but even the most highly skilled and on-pitch singers will hear a slight chorusing from the PA or monitors with it engaged.

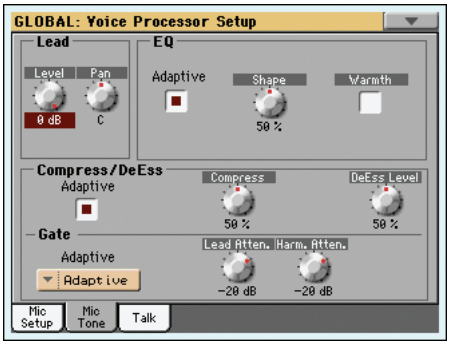
Auto-Chromatic Amount

▸GBL^{VPs}

The factory default value is 50%. Changing the value towards 0% reduces the correction effect and changing towards 100% increases it. Above 50% the effect becomes more noticeable when you slide from note to note. This is the effect of faster transition speed between your input note and the closest scale tone as well as the fact that the algorithm is trying to pull you closer to the target.

Voice Processor Setup: Mic Tone

In this page you can set parameters for the microphone input, choosing the most suitable settings for the Lead voice (i.e., the main singer).



Lead

Level

GBL VPs

This parameter sets the Lead voice level.

Off Lead voice is turned off.

-60dB … 0dB Lead voice level.

Pan

GBL VPs

Adjusts panning for the Lead voice. Left/L99 (panned fully left) to R99/Right (panned fully right).

EQ

The EQ section is different, depending on the Adaptive checkbox status.

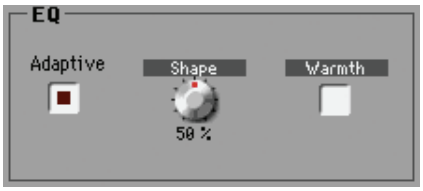
Adaptive

GBL VPs

This activates the automatic EQ algorithm and changes the control set for the EQ. When the Adaptive checkbox is checked, most of the adjustment is done automatically so fewer controls are required.

EQ with Adaptive On

When Adaptive is checked, it allows for simplified editing.



Shape

GBL VPs

"Shape" is the name given to the automatically adjusting EQ that is activated by the Adaptive checkbox. When the Adaptive feature is activated, Shape processing offers an EQ curve that adds an airy brightness, or "sizzle" to your voice while reducing "mud" due to the proximity effect from singing closely into a cardioid microphone.

Adjusting the control from 0% to 50% reduces mud while increasing brightness to a useful range for your voice. Turning from 50% up to 100% adds more brightness.

Reducing Mud

For singers who have a voice with less bass frequencies, the "mud" reduction may be less and perhaps not noticeable at all. This is a good thing – your voice is nicely balanced regarding bass frequencies. For the average male singer or women who sing closely on their mic, the reduction in bass will be noticeable and beneficial. When voices have too much bass, they tend to become lost in the other instruments that occupy those frequencies resulting in sonic clutter. Reducing bass has the natural effect of emphasizing mid and upper frequencies which allow the voice to cut through dense instrumentation.

Lastly, the term "proximity effect" and "cardioid" need to be clarified as they can cause bass build up. The typical microphone used by singers has a pickup pattern called "cardioid" or heart-like, because it picks up less sound at the rear than at the front. This intends to reduce other instruments or sounds from getting into the front of the mic. A side effect of this that singing closely on a cardioid mic adds more bass frequencies than your voice actually has. This is called "proximity effect" because it is caused by closeness to the mic. The adaptive Shape feature listens continually to your voice through your mic and adjusts to make your voice sound like it is professionally produced and balanced.

Adding Highs

The other facet of the Shape feature is that it adds high frequencies, also known as "air" or "presence" without making your voice sound "tinny". The vocal sounds we hear on CDs and the radio are not typically what you hear when you listen to a singer acoustically. Commercial vocal sounds are more of a hyper-reality designed to flatter the voice or voices and make them cut through a group of instruments and thus make a larger impression on the listener. The Shape feature, used at moderate settings, emulates this sound through the average microphone and amplification system.

When making Shape adjustments, it's important to sing while listening to the amplification system your audience will hear rather than only judging by your monitor sound.

Warmth

GBL VPs

This control returns a narrow band of low frequencies for singers who prefer this sound. The majority of the "mud" frequencies are still reduced automatically when using this control.

EQ with Adaptive Off

Turning Adaptive off presents manual parametric EQ controls for users who understand this type of equalization.

There are 3 bands of control:

- Low band shelving
- All band fully parametric peak/dip control

• High band shelving

The 2 "Shelving" EQs boost or cut all frequencies below or above the the frequencies set by the Low and High controls respectively. These are most like the common Bass and Treble controls on a stereo system.

The "Parametric" EQ boosts or cuts the frequencies within a selected band that is defined by a center frequency (lower Mid knob) and a width control (center Mid knob). For vocals, the gain of a narrow parametric band is typically reduced to overcome room or voice resonances and smooth the sound although experienced users may boost a band felt to be missing in a particular voice as well.

The 3 Gain (upper) controls allow +/-12 dB of adjustment. The 3 Frequency (lower) controls range from 20 Hz to 20 kHz.

Low Gain

GBL VPs

Boosts or cuts the range of frequencies below the frequency set by the Low Frequency control.

Low Frequency

GBL VPs

Allows you to define the frequency range for the low shelf by choosing the highest frequency below which boosting or cutting is possible.

High Gain

GBL VPs

Boosts or cuts the range of frequencies above the frequency set by the High Frequency control.

High Frequency

GBL VPs

Defines the frequency range for the high shelf with the selection of the lowest frequency above which boosting or cutting is possible.

Mid Gain

GBL VPs

Boosts or cuts the band of frequencies centered at the setting of the Mid Frequency control and its associated Mid Width.

Mid Frequency

GBL VPs

Defines the center of the parametric band.

Mid Width (Q)

GBL VPs

Defines how narrow or wide the parametric band is to be. The ends of the control range are labelled "Narrow" and "Wide" to add meaning to the numbers in the middle of the control range.

Compress/DeEss

Adaptive

GBL VPs

This activates the automatic Compressor/DeEsser algorithm and changes the control set. When the Adaptive checkbox is checked, most of the adjustment is done automatically so fewer controls are required.

Compress/DeEss with Adaptive On

When Adaptive is checked, it allows for simplified editing.

Compress

GBL VPs

With the Adaptive control activated, the Compress control reduces the amount of range between louder and softer singing to produce more even-sounding vocals. It does so by listening to your singing over time (less than 30 seconds) and adjusting accordingly.

Typical compressors require multiple controls, knowledge and experience, and time spent testing and refining over a performance. With TC-Helicon's Adaptive Compress feature, these are not required.

The factory setting of 50% strikes a good balance between moderating dynamics in your singing without incurring feedback, a side effect of compression used in a live mic setting. If you have a high quality monitoring/amplification setup with a flat frequency response and you want more compression, by all means add more with the Compress control. Be aware though, that average quality systems have frequency peaks that may cause feedback with lots of compression combined with Adaptive Shape EQ.

Compression: A Primer

You may not notice this effect as easily as with Shape. It can be quite subtle until you educate your ears to compression. Following is a very brief description.

We typically sing dynamically, like this (capitals are used to show louder dynamics):

"I **LOVE** to watch you **WALK** down the **STREET**"

At acoustic singing levels with no, or very quiet instrumentation, this would sound fine. When amplified however, the loud words become strident and even worse, quiet words can be lost in the instrument sounds. The louder the amplification system and band the more pronounced the loud parts become. Compression seeks to do the following to your dynamics:

"I LOVE to watch you WALK down the STREET"

Applied appropriately, the difference between loud and soft is reduced without killing the interesting dynamics in your performance.

DeEss Level

GBL VPs

There is a side effect that comes from adding high frequencies and compression to your voice, and that's excessive sibilance. Sibilance can be described as the brief whistle that accompanies "S", "T" and "D" syllables in your vocal performance. Again, when singing acoustically, there is no issue with these sounds. It's when you amplify and combine with boosted highs and compression that they can become piercing.

The DeEss Level control monitors the level of sibilance and, when it is detected, will quickly and transparently reduce it.Typically, it's only briefly required and it then gets out of the way allowing the silky brightness to remain on the voiced portion of your singing.

There is only the single DeEss Level control; no other manual adjustment settings are required. The factory setting of 50% gently reduces sibilance without becoming obvious. Higher settings of compression and Shape or a bright, sibilant voice may require a higher setting.

Compress/DeEss with Adaptive Off

Turning off Adaptive compression switches compression to manual control. Be sure to reduce the level of your amplification or switch to headphones when adjusting the manual compressor because high settings can cause more gain and thus feedback.

Note: *The DeEss Level control will remain unchanged.*

Threshold

▸GBL^{VPs}

This sets the singing level at and above which the amount of gain reduction (compression) specified by the Ratio control will occur. The range is 0 dB to -30 dB: 0 dB being the loudest input signal the Voice Processor can accept without distortion and -30 dB being a very quiet signal. If you sing consistently more quietly than the Threshord, you will not hear any compression. A good setting for experimentation is -10 dB.

Ratio

▸GBL^{VPs}

This sets how much gain reduction you prefer when your voice level goes above the threshold. The range is from 1:1 (no gain reduction) to 4:1 (maximum vocal gain reduction). The default setting for Ratio is 4:1.

The number on the left side of the : (colon) symbol is how loud the peaks in your singing have to be in order to achieve a 1 dB gain increase. A brief example of how adjusting the ratio of compressor works is this: say a word you sang went 4 dB over the threshold when the Ratio was set to 4:1. The compressor would only allow it to go 1 dB louder.

Note that the Ratio control has to be set above 1.0 (1.0:1) to apply any compression regardless of the setting of the Threshold.

Also note that automatic makeup gain occurs depending on your combination of Threshold and Ratio. A side effect of compression is that it can reduce apparent level until makeup gain is applied to raise the overall level.

Gate

If your musical accompaniment is loud or you hear feedback, the Gate control will enable you to make adjustments.

Adaptive

▸GBL^{VPs}

When set to the factory default of ***Adaptive***, the Gate control helps in two very important ways by:

1. Minimizing feedback
2. Reducing the amount of audible effects processing on sounds entering the mic other than your voice.

A typical, fixed gate works by shutting off, or reducing the level of any signal below a threshold that you set. When you sing louder than that threshold, the gate will open and your vocal will come through the amplification system. When you aren't singing, the gate will close and block sounds around you.

The Adaptive Gate works automatically with your singing style to provide the optimum balance between how loud you have to sing to open the gate and how much other noises are reduced.

For troublesome audio environments, or for those who are familiar with setting manual gate parameters, there is also a ***Manual*** setting.

You can also turn the gate to ***Off*** with good results if you are in a quiet, low volume musical environment.

Lead Atten(uation)

▸GBL^{VPs}

This controls how much your lead voice level is reduced (attenuated) when your voice falls below the Gate threshold and the Gate closes. This setting applies whether the Gate is set to Adaptive or Manual. The factory default setting of -3 dB (a reduction of 3 dB) is gentle enough that if your voice strays below the threshold, it is not cut off completely. If you are in a feedback-prone environment (loud monitors plus Shape and Compress on) you can increase this to reduce more. A setting of 0 dB offers no gain reduction on your lead voice at all. Settings of -30 to Off effectively mute your voice when the Gate is on.

Harm(ony) Atten(uation)

▸GBL^{VPs}

This sets the amount of attenuation for the Harmony and Doubling voices when the Gate closes. They have a separate attenuation setting to reduce chatter caused by instrument sounds entering the mic and being harmonized when you aren't singing. The factory default attenuation amount of -10 dB should work well in many situations, but you can fur ther reduce the level if you still hear harmonized instrumental chattering when you stop singing.

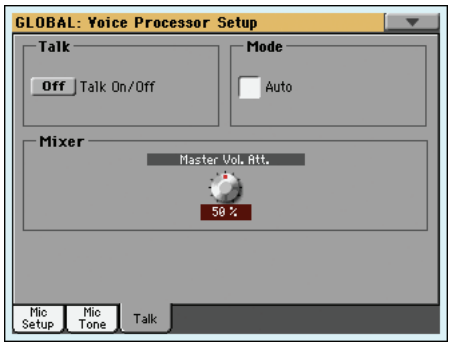
Threshold

▸GBL^{VPs}

(Only with Manual Gate) This parameter becomes visible when the Gate has been switched to Manual. The Threshold defines the minimum singing level you need to reach in order for the Gate to open and let your voice sound. The factory default setting of -40 dB is very sensitive to allow a wide range of singing levels but it may also allow more nearby instrumental sounds through when you are not singing. In this case, further adjustment from -39 dB and upward may be needed.

Voice Processor Setup: Talk

This page is where you can set the Talk function, to be used to address the audience, speaking over the background music. Parameters contained in this page are relative, and are used to attenuate the music when speaking.



After editing, you can save the Talk settings in memory, by choosing the "Write Global-Voice Processor Setup" command from the page menu (see page 219 of the User's Manual).

Talk

Talk On/Off

▸GBL[Tlk]

On/off switch for the Talk function. This is the same switch you can find in the Mic panel of the Style Play and Song Play modes.

This parameter is automatically set to off when turning the instrument off.

Note: *When you deactivate the Talk function, the Voice Processor Preset is recalled. Any unsaved change to the Preset will be lost.*

Mode

Auto (AutoTalk)

▸GBL[Tlk]

When this parameter is checked, the Talk function automatically engages when the Player or Arranger is stopped. This way, you can talk to the audience between two songs, without the need to touch the Talk On/Off button.

Mixer

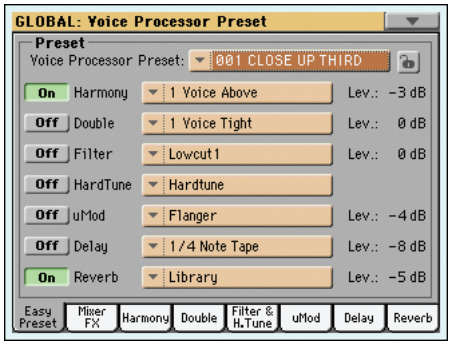
Master Volume Attenuation knob

▸GBL[Tlk]

Use this knob to reduce the volume of all tracks (Keyboard, Style, Player, Pad…). 100% corresponds to no level reduction.

Voice Processor Preset: Easy Preset

This page allows you to select a Voice Processor Preset, as well as turning on or off the various Voice processor blocks.



Preset

Voice Processor Preset

▸PERF ▸STS ▸STS[SB]

Use this parameter to select a Voice Processor Preset. A Preset is the programming of all Voice Processor's effect parameters. A Preset is always saved in a Performance or STS. It is therefore recalled when selecting a Performance or STS.

If you wish to save your Preset settings, just select the "Write Global-Voice Processor Preset" command from the page menu (see page 219 of the User's Manual). The saved Preset will appear in the list of available Presets.

Effects On/Off

▸GBL[VPp]

Use these buttons to turn the effects on/off.

Effect Sets

▸GBL[VPp]

Use the pop-up menus to choose a Set for each of the Voice Processor effects. Sets configure useful settings to pre-programmed values to allow you to make changes quickly.

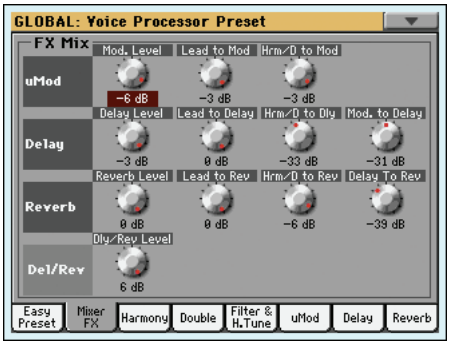
Lev(el)

▸GBL[VPp]

Level of the corresponding effect.

Voice Processor Preset: Mixer/FX

This page contains master level controls for the Voice Processor as a whole.



µMod

Mod. Level

GBL VPp

Master Level of the µMod block.

Lead to Mod

GBL VPp

Master Level of the Lead voice going to the µMod block.

Hrm/D to Mod

GBL VPp

Master Level of the Harmony and Double effects going to the µMod block.

Delay

Delay Level

GBL VPp

Master Level of the Delay block.

Lead to Delay

GBL VPp

Master Level of the Lead voice going to the Delay block.

Hrm/D to Dly

GBL VPp

Master Level of the Harmonyand Double effects going to the Delay block.

Mod. to Delay

GBL VPp

Master Level of the µMod effect going to the Delay block.

Reverb

Reverb Level

GBL VPp

Master Level of the Reverb block.

Lead to Rev

GBL VPp

Master Level of the Lead voice going to the Reverb block.

Hrm/D to Rev

GBL VPp

Master Level of the Harmony and Double effects going to the Reverb block.

Delay to Rev

GBL VPp

Master Level of the Delay effect going to the Reverb block.

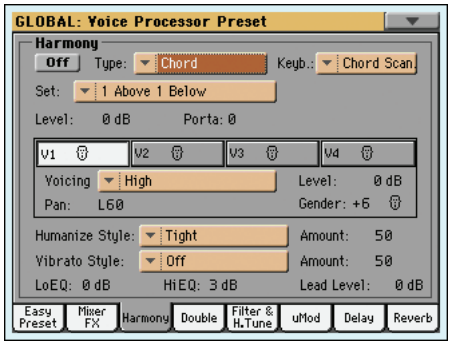
Del/Rev

Dly/Rev Level

Master Level of the Delay and Reverb blocks. This corresponds to the DELAY/REVERB knob in the MIC SETTINGS section. This control is not memorized in the Voice Processor Preset.

Voice Processor Preset: Harmony

In this page you can define general parameters for the Harmony block. The Harmony block produces up to four harmony voices.



Harmony

(Harmony) On/Off

GBL VPp

This button allows enabling/disabling of the Harmony block. It is the same control found in the “Easy Preset” page.

(Harmony) Type

GBL VPp

Type of harmonization. These are the available parameters.

Chord	Chords played on the keyboard, received from a Song in Standard MIDI File format, or from the MIDI IN.
MP3 Audio	Chords recognized in a Song in MP3 format.
Scale	Harmony notes are adapted to a scale.
Shift	Harmony notes are exactly the indicated interval above or under the Lead voice.
Notes	Harmony voices play the notes played on the keyboard, received from a Song in Standard MIDI File format, or from the MIDI IN.

Note: *Some of the parameters in this page appear only when a specified Harmony Type is selected.*

Keyb(oard)

GBL VPp

(Only available when the Harmony Type is Chord or Notes.) Use this menu to select the keyboard range where Chords or notes are to be received from.

Note: *When this parameter is greyed out, notes or chords cannot be received from the keyboard or from a Standard MIDI File.*

Chord Scan.	The area is chosen with the CHORD SCANNING buttons in the control panel.
Lower	Lower area (under the Split Point).
Upper	Upper area (under the Split Point).
Full	The full extension of the keyboard.

Set

▸GBL VPp

Use this menu to choose a Set for the Harmony block. Sets configure useful settings to pre-programmed values to allow you to make changes quickly. This corresponds to the option selected in the "Easy Preset" page.

Level

▸GBL VPp

Sets the level for the overall Harmony effect in the current preset.

Porta(mento)

▸GBL VPp

Portamento is a delayed response to the pitch movement of your singing voice. It is also referred to as "Glide" in synthesizers. The range of values equals approximately how long the upwards or downwards slide will take to reach each new note.

Voice select buttons V1-V4

Use these buttons to select the individual voice to be programmed.

Single Voice parameters box

Voicing

▸GBL VPp

(Only available when the Chord or MP3 Audio Harmony Types are selected.) Here you set the pitch shift intervals of voices 1 through 4 relative to your input pitch. The names of the intervals change depending on the selected Harmony Type. In the Notes mode, the Voicing parameters disappear entirely. The options start at the lowest harmony interval and go the highest.

The Voicing parameter specifies the relation of the harmony note to the input note with respect to the current chord. In Chord mode presets, the harmony voices are always notes in the chord. A setting of Up1 will result in the harmony voice being the next note above the input voice in the chord. For instance, if the chord was C Major and the input note was an E, an Up1 setting would produce a G harmony voice, just above the input E.

Level

▸GBL VPp

This parameter controls the relative volume of each voice. This is also where voices are turned on an off. The range of values goes from Off to 0 dB (Full). Typically all voices are set at the same level unless you want to highlight or minimize a particular voicing interval.

Scale

▸GBL VPp

(Only available when the Scale Harmony Type is selected.) This parameter specifies the interval of the harmony note with respect to the input note in the scale. The range of values goes from -2VE, which is 2 octaves below the input note, to +2VE which is two octaves above the input note. For example, a setting of +3 will result in a harmony voice a third above the input voice.

Shift

▸GBL VPp

(Only available when the Shift Harmony Type is selected.) In Shift mode the voices are shifted relative to the input note. The values range from -24 semitones to +24 semitones.

Smooth

▸GBL VPp

(Only available when the Notes Harmony Type is selected.) At low values, Smoothing acts like pitch correction for the harmony voices. With the voices corrected like this, some Portamento is usually required to help soften note to note transitions unless a robot-like effect is desired. Higher values offer progressively less correction. Like Portamento, setting each voice with a unique value of the Smoothing parameter helps the harmonies sound more natural. When the Notes Harmony Type is selected, high values of smoothing will sound out of tune.

Pan

▸GBL VPp

Each voice may have a unique pan position. There are 100 possible steps in each of the left and right pan positions.

When the Notes Harmony Type is selected, you can select between Narrow, Medium and Wide panning.

Gender

▸GBL VPp

Each voice has its own timbre adjustment in the form of the Gender control. Values below 0 lend each voice a more masculine and deeper effect and values above 0 lend a more feminine or thinner effect.

Other Harmony settings

Humanize Style

▸GBL VPp

The term "humanize" simply means the application of processes designed to increase realism. All harmony modes usually benefit from careful application of humanization styles that make each harmony voice respond with small pitch and timing variations different from your voice. Each Humanize Style configures each of the four voices differently; Voice 1 has slightly different parameter values than say Voice 4 in the same style but all four voices will work together to produce a useful overall effect.

The various Humanization styles consist of various amounts of the following modifiers:

- Onset pitch events – This is also known as "scooping" which adds a generated pitch trajectory for each new note that is different than the sung note.
- Pitch modulation – A random wave generator wobbles the pitch in non-periodic ways to simulate even the finest singers' pitch variation.
- Timing delay and modulation – Singers are unable to start notes at the same time with the exactness of a machine so this algorithm applies slight delays to the onset of notes and then adds modulated time variation to sustained portions of notes.
- Level (volume) modulation – This effect is like a subtle tremolo with a non-periodic or semi random waveform that simulates the way different singers change note volumes as they sing.

Amount

▸GBL[VPp]

You can vary the amount of humanization for the harmony voices. All the styles except for the last one (Time & Pitch) were designed at middle values to allow you to add or remove effects as you see fit. Time & Pitch was designed so you can create wild special effects as you experiment with high values.

Vibrato Style

▸GBL[VPp]

Vibrato assists in providing separation between your dry singing voice and the harmonies as well as to add some movement to the rigid pitch contour in Notes mode harmony. Even the smallest amount of vibrato applied to your harmony voices can achieve this. Like the Humanize effects, each voice is treated slightly differently by the Vibrato algorithm so the voices don't all sound exactly the same. There are 7 styles available in progressively more intensity as you browse down the list.

Amount

▸GBL[VPp]

You can vary the amount of vibrato intensity for the overall style with this parameter. All the styles were designed to be useful at middle values but you can add or remove vibrato as you like.

LoEQ

▸GBL[VPp]

Low-frequency equalization.

Lead Level

▸GBL[VPp]

Level of the Lead voice mixed with the effect.

Voice Processor Preset: Double

The Double effect uses the same type of Humanization technology as in the Harmony effect to create up to two overdubbed versions of your voice. The two voices are set to unison intervals as opposed to the moveable intervals available for the harmony voices. Unlike simple detune or micro-shift techniques available with the µMod effect, Double simulates the sound of a vocalist overdubbing their vocal part multiple times. Many of the edit parameters for the Doubling page are the same as for Harmony page.

(Double) On/Off

▸GBL[VPp]

This button allows enabling/disabling of the Double block. It is the same control found in the "Easy Preset" page.

Set

▸GBL[VPp]

Use this menu to choose a pre-programmed Double Set you like. This allows you to quickly choose an effect close to what you want instead of having to go directly into the individual parameters each time. This corresponds to the option selected in the "Easy Preset" page.

Level

▸GBL[VPp]

Sets the level for the overall Double effect in the current preset.

Portamento

▸GBL[VPp]

Portamento is a delayed response to the pitch movement of your singing voice. It works exactly like the "Porta(mento)" parameter of the Harmony page.

Humanize Style

▸GBL[VPp]

The term "humanize" simply means the application of processes designed to increase realism. Contrary to the same parameter of the Harmony page, humanization is the same for all doubling voices.

Humanize Amount

▸GBL[VPp]

You can vary the amount of humanization for the harmony voices. It works exactly like the "Amount" parameter of the Harmony page.

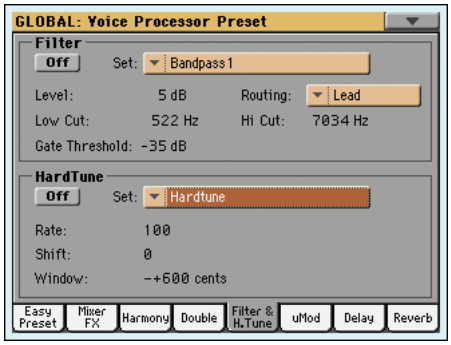
Lead Level

▸GBL[VPp]

Level of the Lead voice mixed with the effect.

Voice Processor Preset: Filter & Hard Tune

This page contains the Filter and HardTune effects, which dramatically change the sound's character.



Filter

This effect uses steep filters to emulate the sound of radios, phones and devices that generally degrade the audio signal.

(Filter) On/Off

▸GBL VPp

This button allows enabling/disabling of the Filter block. It is the same control found in the "Easy Preset" page.

Set

▸GBL VPp

Use this menu to choose a pre-programmed Filter Set. The Routing and Gate Threshold parameters are not part of the Set. This corresponds to the option selected in the "Easy Preset" page.

Level

▸GBL VPp

Sets the level for the overall Filter effect in the current preset.

Routing

▸GBL VPp

Selects where the Filter effect is inserted into the signal path for maximum flexibility. The options are:

Off	No routing.
Lead	Filter is inserted on the Lead voice only. Harmonies and Doubling are unaffected.
Harm+Double	Filter is inserted on the Harmony+Double path only.
Voices	Filter is inserted on both the Lead, Harmony and Doubling voices.
Lead FX	Filter is inserted on the Lead send to the µMod, Delay and Reverb effect sends. Lead voice will be clean.
Harmony FX	Filter is inserted on the Harmony send to the effects. Lead and Harmony voices will be clean.

Low Cut / Hi Cut

▸GBL VPp

Sets the cut-off frequency for these very steep low and high shelving filters.

Gate Threshold

▸GBL VPp

A gate, separate from the main Gate under the "Voice Processor Setup: Mic Tone" page is used to help prevent feedback when using the Filter with presence filtering that can introduce feedback in a live environment. This parameter sets how loud you must sing in order to open the gate.

HardTune

This effect is a pitch corrector that has been optimized to produce corrective pitch correction as well as obvious effects made popular by a number of artists.

Note: *This effect only works when a chord is recognized.*

(HardTune) On/Off

▸GBL VPp

This button allows enabling/disabling of the HardTune block. It is the same control found in the "Easy Preset" page.

Set

▸GBL VPp

Use this menu to choose a pre-programmed HardTune Set. This allows you to quickly choose an effect close to what you want instead of having to go directly into the individual parameters each time. This corresponds to the option selected in the "Easy Preset" page.

Rate

▸GBL VPp

Rate determines how fast the algorithm pulls you toward scale tones. A value of 0 is off and a value of 100 is instant resulting in something like the infamous "Cher" effect where the pitch correction effect is stair-stepped and obvious when using non-chromatic scales (those with at least a whole tone jump between most of the scale tones). Usually, values around 20 yield acceptable results for smooth, corrective pitch correction.

Shift

▸GBL VPp

Sets the a relative shift in semitones above or below the input vocal. This is useful for transposing or creating character voices while simultaneously pitch correcting.

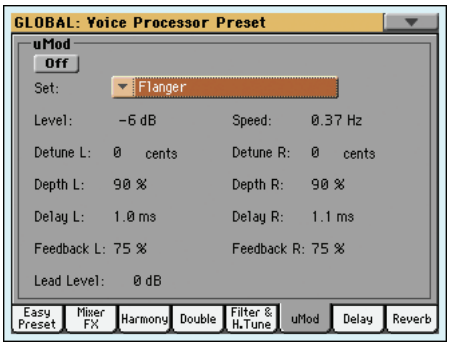
Window

▸GBL VPp

Allows you to determine how close to a valid scale note you have to be before the algorithm corrects you. For example, a value of 80 cents means that only when you are singing within +/- 40 cents away from the target scale note will you be corrected. The maximum value is 600 cents. At maximum, a custom scale could be created with only one note for special effects. In a Major scale having no more than 100 cents on either side of any scale tone a setting of 200 would result in fulltime correction activity.

Voice Processor Preset: µMod

µMod is short for *micro-modulation*. The µMod effect is capable of creating many different sounds that range from subtle but lush thickening to creatively destructive. It uses a combination of stereo pitch shifting (Detune), small amounts of stereo delay (Delay), and then a complex path of filtering, feedback, and modulation. µMod does a faithful job of emulating classic detune, chorus, flange and thickening sounds.



(µMod) On/Off

GBL VPp

This button allows enabling/disabling of the µMod block. It is the same control found in the "Easy Preset" page.

Set

GBL VPp

Use this menu to choose a pre-programmed µMod Set. This corresponds to the option selected in the "Easy Preset" page.

Level

GBL VPp

Sets the mix level for the µMod effect.

Speed

GBL VPp

This setting sets how fast the delay time modulation occurs. In order for this to be audible, the depth amount parameter has to be nonzero. The setting range is 10.00 Hz (very fast) to .05 Hz (very slow).

Detune L/R

GBL VPp

Applies a small amount of pitch shift to the left or right sides independently. This setting is shown in cents and the maximum is +/- 25 cents.

Depth L/R

GBL VPp

These set the amount of modulation of the delay time for the left and right delays. If one delay is set to 10mS, for example, a setting of 50% will vary the delay time between 15mS and 5mS at the rate set by the Speed parameter.

Delay L/R

GBL VPp

Sets the left and right delay times. Up to 50 ms of delay is available on the left and right delay lines to create effects from flange to slapback.

Feedback L/R

GBL VPp

Re-introduces a portion of the audio output signal of the µMod block back to the input to create flanges, tube and chorus effects. Values above 90 add a high amount of gain and cause distortion and higher audio levels.

Lead Level

GBL VPp

Level of the Lead voice mixed with the effect.

Voice Processor Preset: Delay

The delay effect is a configurable echo. You can control how far apart the echoes occur (Delay Time), and whether the echoes fade out quickly or slowly or build on themselves. In addition, there are filtering and stereo controls that allow you to create many popular delay sounds.

Delays can be typically be categorized into the two listed categories below:

Short Delays: Initial reflections, Slaps

Long Delays (max stereo delay is 2500 ms or 2.5 sec.): Monotaps, Stereotaps, Syncopated taps, Ping-pongs (delays travelling from left to right).

(Delay) On/Off

GBL VPp

This button allows enabling/disabling of the Delay block. It is the same control found in the "Easy Preset" page.

Set

GBL VPp

Use the soft knob assigned to this parameter to choose a pre-programmed delay style you like. This corresponds to the option selected in the "Easy Preset" page.

Level

GBL VPp

Sets the mix level for the delay effect.

Source

GBL VPp

Determines which of the two methods you want to use to set delay times. These include:

Time	This allows you to set the exact delay time for the left and right delay lines manually with the Time L and Time R controls.
MIDI	The unit can be set to derive its delay times from incoming MIDI clock signal.

Div L/R

GBL VPp

When the source is set to MIDI, these parameters divide the tempo into even (e.g. 1/4 or quarter notes) or syncopated sub-

beats (e.g. 1/4 triplets, 1/4 dotted notes) for the left and right delays.

Time L/R

▸GBL VPp

These parameters are used to display the exact delay time and to allow editing with all Source settings. You may set from 0 to 2500ms (2.5 seconds) of delay for the left and right delay lines.

Feedback L/R

▸GBL VPp

Re-introduces a portion of the audio output signal of the Delay block back to the input to add echo repeats.

Hi Cut / Low Cut

▸GBL VPp

These steep highpass (Low Cut) and low pass (Hi Cut) filters control the bandwidth of the delays. Applying these filters to the delays can create the feeling of space while not obscuring the main vocal signal.

Duck Amount

▸GBL VPp

This sets how much attenuation (gain reduction) is applied to the delayed signal when a vocal is present. For ducking to not be too obvious, a slight reduction of -6 dB is best. The Ducking can also be turned Off with this parameter.

Lead Level

▸GBL VPp

Level of the Lead voice mixed with the effect.

Voice Processor Preset: Reverb

Reverb is arguably the most common vocal effect. It can add a spaciousness that softens the abrupt beginnings and endings of lyric phrases. Many reverb types are meant to imitate the natural sound of spaces like churches, clubs and halls but not all. Some reverb effects are recreations of electro-mechanical effects meant to imitate real spaces like plates and springs.

Reverbs are made up of early reflections and the longer reverberant sounds known as the tails.There are usually controls to control the balance of room level and tail. Additionally, a small delay can be added between the dry voice and the reverb signal that adds clarity by briefly separating the dry voice from its reverb. By far the most important control for reverb is the level. A single reverb patch can have a different result for the audience whether it is mixed quietly or boldly in the mix.

(Reverb) On/Off

▸GBL VPp

This button allows enabling/disabling of the Reverb block. It is the same control found in the “Easy Preset” page.

Set

▸GBL VPp

Use the soft knob assigned to this parameter to choose a pre-programmed reverb style you like. This corresponds to the option selected in the “Easy Preset” page.

Level

▸GBL VPp

Sets the mix level for the Reverb effect.

Decay

▸GBL VPp

Sets the length of the reverb tail from 10mS to 20 seconds. Note that, due to the complex nature of Reverb algorithms, a decay time of 4 seconds may sound quiet different from one style to the next, even when the rest of the settings are identical.

Pre Delay

▸GBL VPp

Pre Delay introduces a short (up to 100 ms) delay between the dry audio signal and the onset of reverb to help simulate larger spaces and to provide audio separation between the dry signal and the reverb effect.

Hi Color / Lo Color

▸GBL VPp

These are preset-frequency filters inserted into the Reverb feedback path that tailor the low and high frequency response and decay of the tails.Values toward -50 will cut response in its respective band and a values toward 50 increase response.

Duck Amount

▸GBL VPp

When Ducking has a value other than Off, the Reverb block’s output will be reduced while you are singing. At the end of a sung phrase, the effects return to the level you set, increasing the clarity of your vocals while still sounding very “wet”. This parameter sets the amount of attenuation for Ducking.

Lead Level

▸GBL VPp

Level of the Lead voice mixed with the effect.

Effects

Pa3X is equipped with four powerful Effect Processors for the internal MIDI tracks (Upper, Lower, Style, Song, Pads).

Dynamic Modulation sources

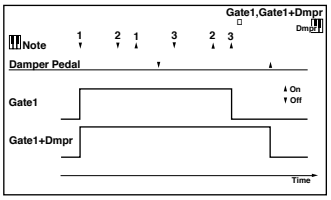
When the D-mod symbol is encoutered, a Dynamic Modulation can be applied to the corresponding parameter. Dynamic Modulation allows for realtime control of the effect. The following table shows the available modulation sources.

Modulation source	Note
Off	No modulation
Gate1	
Gate1+Dmpr	
Gate2	
Gate2+Dmpr	
Note Nr	Note Number
Velocity	Note Velocity
Expo Velocity	Exponential Note Velocity
AfterTouch	After Touch
JS X	Joystick Left/Right
JS+Y: CC#01	Joystick Forward
JS-Y: CC#02	Joystick Backward
MIDI(CC#04)	
MIDI(CC#12)	
MIDI(CC#13)	
Ribb.(CC#16)	Ribbon Controller
MIDI(CC#18)	
MIDI(CC#17)	
MIDI(CC#19)	
MIDI(CC#20)	
MIDI(CC#21)	
MIDI(CC#17+)	
MIDI(CC#19+)	
MIDI(CC#20+)	
MIDI(CC#21+)	
Damper: #64	
Prta.SW: #65	Portamento Switch
Sostenu: #66	Sostenuto Pedal
MIDI(CC#67)	
MIDI(CC#80)	
MIDI(CC#81)	
MIDI(CC#82)	
MIDI(CC#83)	
MIDI(CC#85)	
MIDI(CC#86)	
MIDI(CC#87)	
MIDI(CC#88)	
Tempo	

Some notes on the Gate parameters follow.

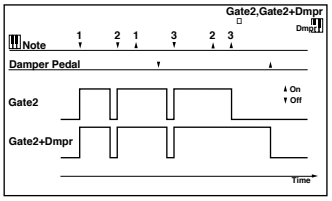
Gate1, Gate1+Dmpr (Gate1+Damper)

The effect is at maximum during note-on, and will stop when all keys are released. With **Gate1 + Dmpr**, the effect will remain at maximum even after the keys are released, as long as the damper (sustain) pedal is pressed.



Gate2, Gate2+Dmpr (Gate2+Damper)

This is essentially the same as for Gate 1 or Gate 1 + Dmpr. However when **Gate 2** or **Gate 2 + Dmpr** are used as a dynamic modulation source for the EG, a trigger will occur at each note-on. (In the case of Gate 1 and Gate 1 + Dmpr, the trigger occurs only for the first note-on.)



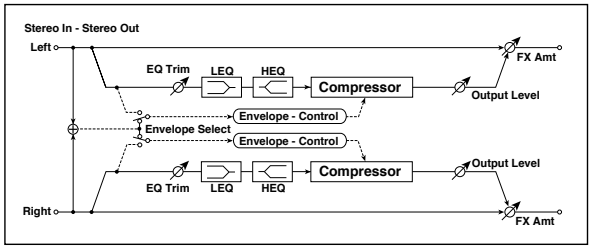
Dynamics (Dynamic)

0: No Effect

Select this option when you do not use any effects.

1: Stereo Compressor

This effect compresses the input signal to regulate the level and give a "punchy" effect. It is useful for guitar, piano, and drum sounds. This is a stereo compressor. You can link left and right channels, or use each channel separately.



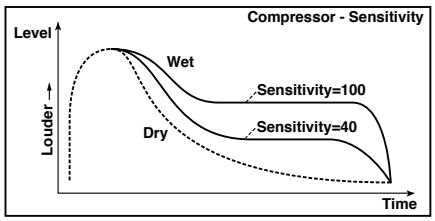
a	Envelope Select	L/R Mix, L/R Individually	Determines whether the left and right channels are linked or used separately	
b	Sensitivity	1...100	Sets the sensitivity	
c	Attack	1...100	Sets the attack level	
d	EQ Trim	0...100	Sets the EQ input level	
e	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
f	Pre LEQ Gain [dB]	–15.0...+15.0	Sets the gain of the Low EQ	
	Pre HEQ Gain [dB]	–15.0...+15.0	Sets the gain of the High EQ	
g	Output Level	0...100	Sets the output level of the compressor	
	Src	Off...Tempo	Selects the modulation source for the compressor output level	
	Amt	–100...+100	Sets the modulation amount for the compressor output level	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Sets the Balance between the wet and dry signal	
	Src	Off...Tempo	Selects a modulation source for Wet/Dry	
	Amt	–100...+100	Sets the modulation amount for Wet/Dry	

a: Envelope Select

This parameter selects whether the left and right channels are linked to control both signals simultaneously, or whether each channel is controlled independently.

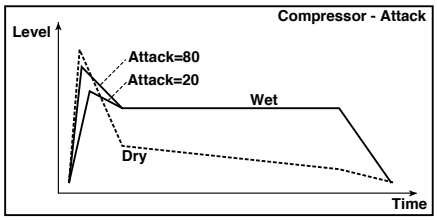
b: Sensitivity
g: Output Level

The "Sensitivity" parameter sets the sensitivity of the compressor. If this parameter is set to a higher value, lower level sounds will be boosted. With a higher Sensitivity, the overall volume level is higher. To adjust the final volume level, use the "Output Level" parameter.



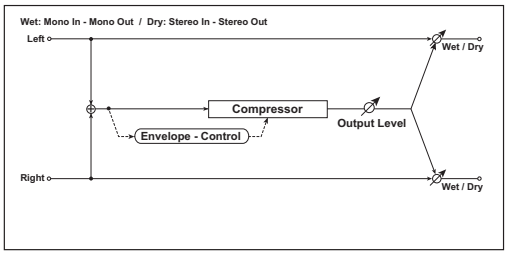
c: Attack

This parameter controls the attack level.



2: Dyn. Compressor

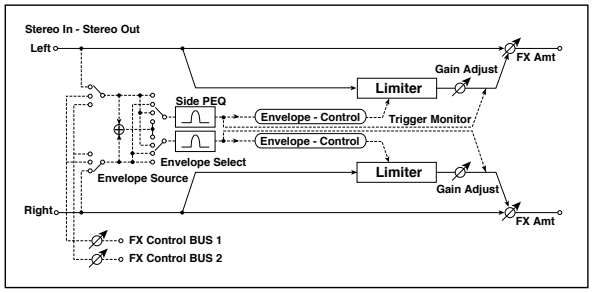
When playing chords on an electric piano or similar instrument, it's helpful to use a compressor to keep each note smooth and well-balanced. In addition to a distinctive percussive accent, it will also provide a long sustain. This effect models a popular compressor with a clean sound that's perfect for pop and funk music.



Sensitivity	1...100	Sets the sensitivity	
Attack	1...100	Sets the attack level	
Level	0...100	Sets the output level of the compressor	
Wet/Dry	Dry, 1 : 99... 99 : 1, Wet	Sets the Balance between the wet and dry signal	D-mod
Source	Off...Tempo	Selects the modulation source for the compressor output level	
Amount	–100...+100	Sets the modulation amount for the compressor output level	

3: Stereo Limiter

The Limiter regulates the input signal level. It is similar to the Compressor, except that the Limiter compresses only signals that exceed the specified level to lower unnecessary peak signals. The Limiter applies a peaking-type EQ to the trigger signal (which controls the degree of the Limiter effect), allowing you to set any band width to be covered. This effect is a stereo limiter. You can link left and right channels, or use each channel individually.



a	Envelope Select	L/R Mix, L Only, R Only, L/R Individually	Selects from linking both channels, controlling only from left channel, only from the right channel, or controlling each channel individually	
b	Ratio	1.0 : 1… 50.0 : 1, Inf : 1	Sets the signal compression ratio	
c	Threshold [dB]	–40...0	Sets the level above which the compressor is applied	
v	Attack	1...100	Sets the attack time	
	Release	1...100	Sets the release time	
e	Gain Adjust [dB]	–Inf, –38...+24	Sets the output gain	
	Src	Off...Tempo	Selects the modulation source for the output gain	
	Amt	–63...+63	Sets the modulation amount of the output gain	
f	Side PEQ Insert	Off, On	Toggles between on/off of the trigger signal's EQ	
	Trigger Monitor	Off, On	Switches between effect output monitor and trigger signal monitor	
g	Side PEQ Cutoff [Hz]	20...12.00k	Sets the EQ center frequency for the trigger signal	
	Q	0.5...10.0	Sets the EQ bandwidth for the trigger signal	
	Gain [dB]	–18.0...+18.0	Sets the EQ gain for the trigger signal	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Envelope Select

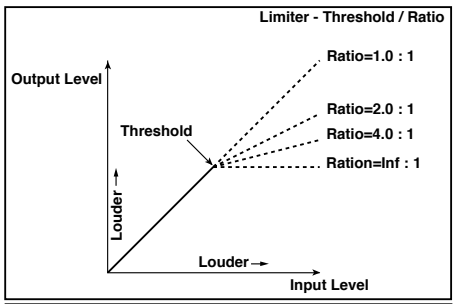
When L/R Mix is selected for this parameter, the left and right channels are linked to control the Limiter using the mixed signal. If L Only (or R Only) is selected, the left and right channels are linked, and the Limiter is controlled via only the left (or right) channel.

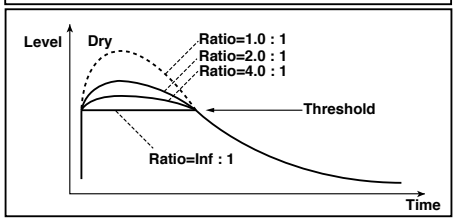
With L/R individually, the left and right channels control the Limiter individually.

b: Ratio
c: Threshold [dB]
e: Gain Adjust [dB]

This parameter sets the signal compression "Ratio". Compression is applied only when the signal level exceeds the "Threshold" value.

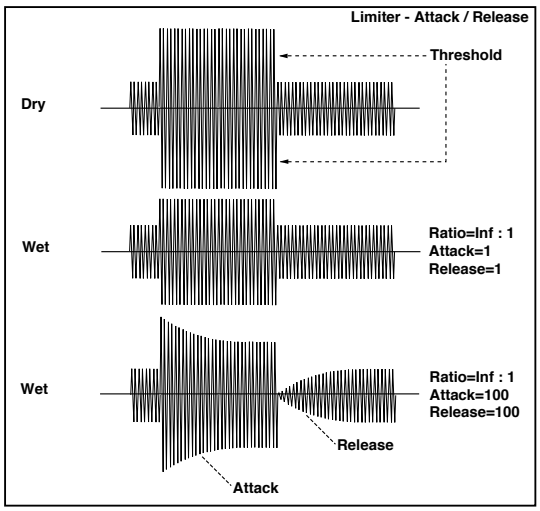
Adjust the output level using the "Gain Adjust" parameter, since compression causes the entire level to be reduced.





d: Attack
d: Release

These parameters set the attack time and release time. A higher attack time will cause the compression to be applied more slowly.



f: Trigger Monitor

Setting this parameter On will cause the trigger signal to be output, instead of the effect sound. Use this parameter to check the trigger signal with EQ applied.

Usually, set this to Off.

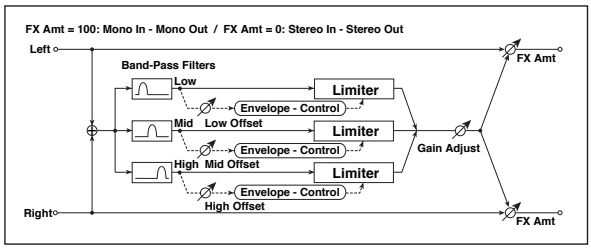
f: Side PEQ Insert
g: Side PEQ Cutoff [Hz]
g: Q
g: Gain [dB]

These parameters are used to set the EQ applied to the trigger signal.

The Limiter determines whether the compression is applied or not, based on the post-EQ trigger signal. Setting the equalizer allows you to set the Limiter to respond to any frequency band.

4: Multiband Limiter

This effect applies the Limiter to the low range, mid range, and high range of the input signal. You can control dynamics for each range to adjust the sound pressure of the low range, mid range, and high range in a different way from the EQ.



a	Ratio	1.0 : 1...50.0 : 1, Inf : 1	Sets the signal compression ratio	
b	Threshold [dB]	–40...0	Sets the level above which the compressor is applied	
c	Attack	1...100	Sets the attack time	
d	Release	1...100	Sets the release time	
e	Low Offset [dB]	–40...0	Gain of the low-range trigger signal	
f	Mid Offset [dB]	–40...0	Gain of the mid-range trigger signal	
g	High Offset [dB]	–40...0	Gain of the high-range trigger signal	
h	Gain Adjust [dB]	–Inf, –38...+24	Sets the output gain	
	Src	Off...Tempo	Selects the modulation source for the output gain	
	Amt	–63...+63	Sets the modulation amount of the output gain	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

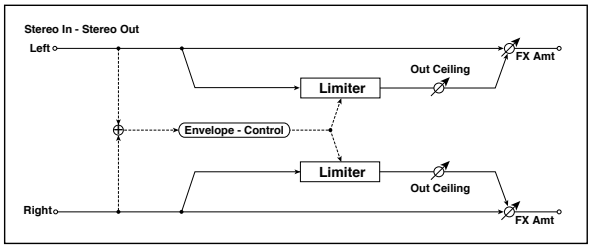
e: Low Offset [dB]
f: Mid Offset [dB]
g: High Offset [dB]

These parameters set the gain of the trigger signal.

For example, if you do not want to apply compression to the high range, reduce the “High Offset” value down below the “Threshold” level. In this way, the high range limiter will not respond, and compression will not be applied.

5: St.MasteringLimtr (Stereo Mastering Limiter)

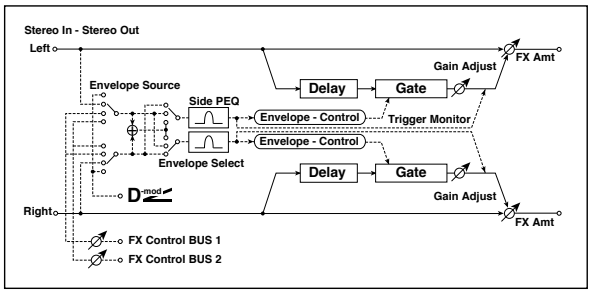
This is a stereo limiter that is optimized for mastering songs.



a	Threshold [dB]	–30.0...0.0	Sets the level above which the compressor is applied	
b	Out Ceiling [dB]	–30.0...0.0	Sets the output gain	
c	Release [msec]	0.50...1000.0	Sets the release time	
d	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

6: Stereo Gate

This effect mutes the input signal when it falls below a specified level. You can also invert the on/off status of the gate, or use note-on/off messages to turn the gate on/off directly.



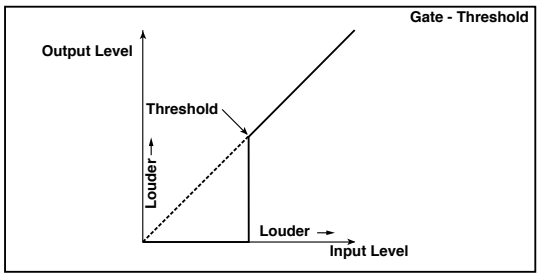
a	Envelope Source	D-mod, Input	Selects the source to control the gate: D-mod control, or use the input signal as a trigger	
b	Envelope Select	L/R Mix, L Only, R Only	Selects the control signal: left and right linked, left only, or right only	
	Src	Off...Tempo	Selects the source that will control the gate when Envelope Src = D-mod	

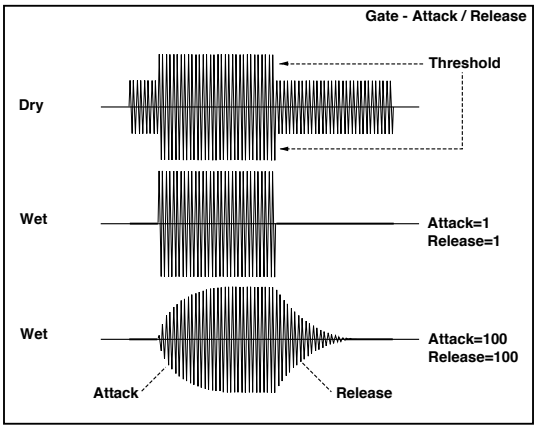
c	Threshold	0...100	Sets the level at which gating is applied	
	Polarity	+, –	Switches the polarity of gating	
d	Attack	1...100	Sets the attack time	
	Release	1...100	Sets the release time	
e	Delay Time [msec]	0...100	Sets the delay time for the gate input	
f	Side PEQ Insert	Off, On	Switches the trigger signal equalizer on/off	
	Trigger Monitor	Off, On	Switches between monitoring the effect output and the trigger signal	
g	Side PEQ Cutoff [Hz]	20...12.00k	Sets the center frequency of the equalizer for the trigger signal	
	Q	0.5...10.0	Sets the bandwidth of the equalizer for the trigger signal	
	Gain [dB]	–18.0...+18.0	Sets the gain of the equalizer for the trigger signal	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

c: Threshold
d: Attack
d: Release

“Threshold” specifies the level at which gating occurs when “Envelope Select” is set to L/R Mix, L Only, or R Only.

“Attack” and “Release” specify the attack time and release time of the gate.





c: Polarity

This inverts the polarity of the gate on/off operation. With the “–” setting, the gate will close when the input signal exceeds the specified level. The direction in which the modulation source opens or closes the gate will also be reversed.

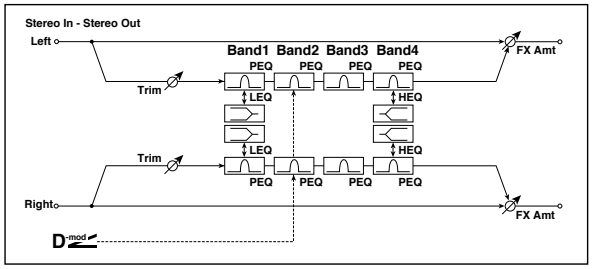
e: Delay Time [msec]

This sets the delay time for the input to the gate. When using shorter Attack Time settings, you can lengthen the Delay Time so that the sound is input after the gate opens.

EQ and Filters (EQ/Filter)

7: St.Parametric4EQ
(Stereo Parametric 4-Band EQ)

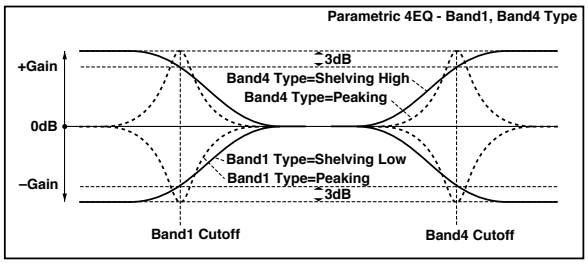
This is a stereo 4-band parametric equalizer. You can select peaking type or shelving type for Band 1 and 4. The gain of Band 2 can be controlled by dynamic modulation.

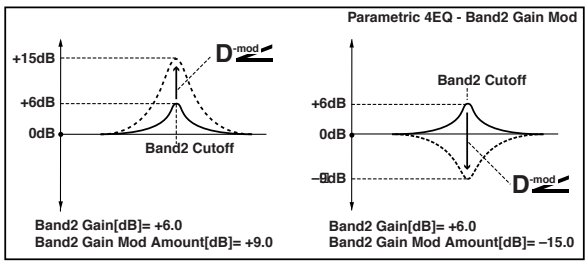


a	Trim	0...100	Sets the input level	
b	Band1 Type	Peaking, Shelving-Low	Selects the type of Band 1	
c	Band4 Type	Peaking, Shelving-High	Selects the type of Band 4	
d	Band2 Dynamic Gain Src	Off...Tempo	Selects the modulation source of the Band 2 gain	
	Amt [dB]	–18.0...+18.0	Sets the modulation amount of Band 2 gain	
e	Band1 Cutoff [Hz]	20...1.00k	Sets the center frequency of Band 1	
	Q	0.5...10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18.0...+18.0	Sets the gain of Band 1	
f	Band2 Cutoff [Hz]	50...10.00k	Sets the center frequency of Band 2	
	Q	0.5...10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18.0...+18.0	Sets the gain of Band 2	
g	Band3 Cutoff [Hz]	300...10.00k	Sets the center frequency of Band 3	
	Q	0.5...10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18.0...+18.0	Sets the gain of Band 3	
h	Band4 Cutoff [Hz]	500...20.00k	Sets the center frequency of Band 4	
	Q	0.5...10.0	Sets the bandwidth of Band 4	
	Gain [dB]	–18.0...+18.0	Sets the gain of Band 4	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

b: Band1 Type
c: Band4 Type

Selects a filter type for Band 1 and 4.





e, f, g, h: Q

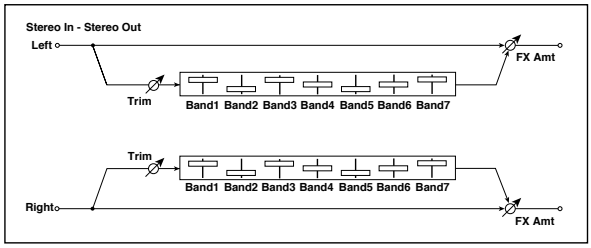
These parameters set the bandwidth of each equalizer. The higher the value, the narrower the band becomes.

d: Band2 Dynamic Gain Src
d: Amt [dB]

You can control the gain of Band 2 using the modulation source.

8: St. Graphic 7EQ (Stereo Graphic 7-Band EQ)

This is a stereo 7-band graphic equalizer. The bar graph of the gain setting for each band gives you a clear, visual idea of frequency responses. You can select a center frequency setting for each band from twelve types, according to the sound.



a	Type	1:Wide 1, 2:Wide 2, 3:Wide 3, 4:Half Wide 1, 5:Half Wide 2, 6:Half Wide 3, 7:Low, 8:Wide Low, 9:Mid, 10:Wide Mid, 11:High, 12:Wide High	Selects a combination of center frequencies for each band	
b	Trim	0...100	Sets the input level	
c	Band1 [dB]	–18.0...+18.0	Sets the gain of Band 1	
d	Band2 [dB]	–18.0...+18.0	Sets the gain of Band 2	
e	Band3 [dB]	–18.0...+18.0	Sets the gain of Band 3	
f	Band4 [dB]	–18.0...+18.0	Sets the gain of Band 4	
g	Band5 [dB]	–18.0...+18.0	Sets the gain of Band 5	
h	Band6 [dB]	–18.0...+18.0	Sets the gain of Band 6	
i	Band7 [dB]	–18.0...+18.0	Sets the gain of Band 7	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

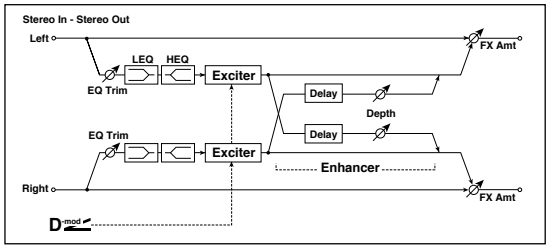
a: Type

This parameter selects a combination of center frequencies for each band. The center frequency of each band is shown in the right of the screen.

You can configure a 21-Band Graphic EQ ranging from 80 Hz to 18 kHz if you route three Graphic 7-Band EQ effects in series, with a setting of 7:Low, 9:Mid, and 11:High for each EQ.

9: St.Exciter/Enhncr (Stereo Exciter/Enhancer)

This effect is a combination of the Exciter, which adds a punch to the sound and the Enhancer, which adds spread and presence.



a	Exciter Blend	–100...+100	Sets the intensity (depth) of the Exciter effect	
	Src	Off...Tempo	Selects the modulation source of the Exciter intensity	
	Amt	–100...+100	Sets the modulation amount of the Exciter intensity	
b	Emphasis Freq	0...70	Sets the frequency to be emphasized	
	Src	Off...Tempo	Selects the modulation source of the frequency to be emphasized	
	Amt	–70...+70	Sets the amount of modulation of the frequency to be emphasized	
c	Enhancer Delay L [msec]	0.0...50.0	Sets the delay time for the Enhancer left channel	
d	Enhancer Delay R [msec]	0.0...50.0	Sets the delay time for the Enhancer right channel	
e	Enhancer Depth	0...100	Sets the determines to what degree the Enhancer effect is applied	
	Src	Off...Tempo	Selects the modulation source of the Enhancer width	
	Amt	–100...+100	Sets the modulation amount of the Enhancer width	
f	EQ Trim	0...100	Sets the 2-band EQ input level	
g	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
h	Pre LEQ Gain [dB]	–15.0...+15.0	Gain of the Lo EQ	
	Pre HEQ Gain [dB]	–15.0...+15.0	Gain of the High EQ	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Exciter Blend

This parameter sets the depth (intensity) of the Exciter effect. Positive values give a frequency pattern (to be emphasized) different from negative values.

b: Emphasis Freq

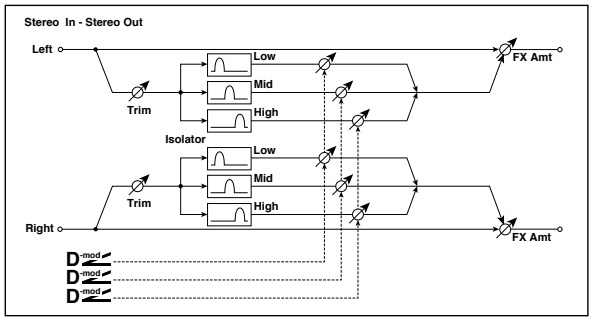
This parameter sets the frequency to be emphasized. Higher values will emphasize lower frequencies.

c: Enhancer Delay L [msec]
d: Enhancer Delay R [msec]

These parameters set the delay time for the Enhancer left and right channel. Specifying a slightly different delay time for the left and right channel will add a stereo image, depth, and width to the sound.

10: Stereo Isolator

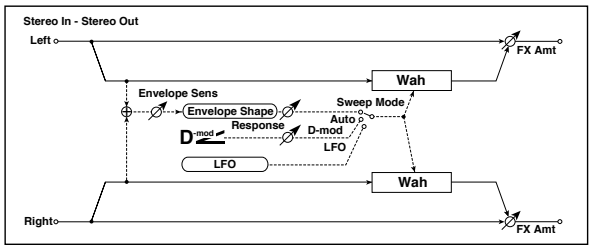
This is a stereo effect that separates the input signal into low, mid, and high-frequency bands, and controls the volume of each band independently. For example you can separately boost or cut the kick, snare, and hi-hat sounds from a drum signal in real-time.



a	Trim	0...100	Sets the input level	
b	Low/Mid [Hz]	100...500	Sets the frequency at which the low and mid bands are divided	
c	Mid/High [Hz]	2000...6000	Sets the frequency at which the mid and high bands are divided	
d	Low Gain [dB]	–Inf, –59...+12	Sets the low-frequency gain	
	Src	Off...Tempo	Selects the source that will modulate low-frequency gain	
	Amt	–72...+72	Sets the amount by which the low-frequency gain will be modulated	
e	Mid Gain [dB]	–Inf, –59...+12	Sets the mid-frequency gain	
	Src	Off...Tempo	Selects the modulation source for mid-frequency gain	
	Amt	–72...+72	Sets the amount by which the mid-frequency gain will be modulated	
f	High Gain [dB]	–Inf, –59...+12	Sets the high-frequency gain	
	Src	Off...Tempo	Selects the modulation source for high-frequency gain	
	Amt	–72...+72	Sets the amount by which the high-frequency gain will be modulated	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

11: St. Wah/Auto Wah (Stereo Wah/Auto Wah)

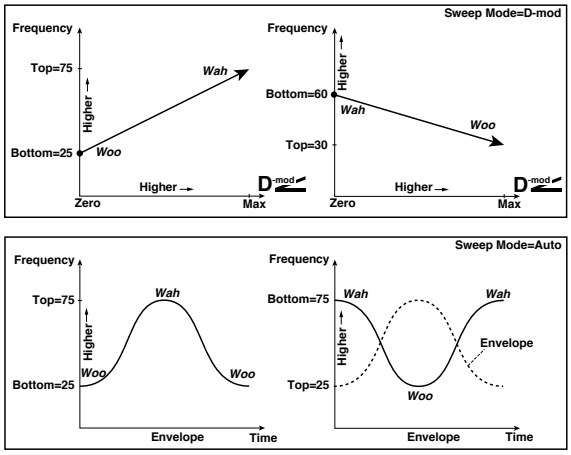
This stereo wah effect allows you to create sounds from vintage wah pedal simulation to auto-wah simulation, and much broader range settings.



a	Frequency Bottom	0...100	Sets the lower limit of the wah center frequency	
	Frequency Top	0...100	Sets the upper limit of the wah center frequency	
b	Sweep Mode	Auto, D-mod, LFO	Selects the control from auto-wah, modulation source, and LFO	
	Src	Off...Tempo	Selects the modulation source for the wah when Sweep Mode=D-mod	
	Respon	0...100	Sets the response speed when Sweep Mode = Auto or D-mod	
c	Envelope Sens	0...100	Sets the sensitivity of auto-wah	
	Envelope Shape	–100...+100	Sets the sweep curve of auto-wah	
d	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
e	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
f	Resonance	0...100	Sets the resonance amount	
	Low Pass Filter	Off, On	Switches the wah low pass filter on and off	
g	Output Level	0...100	Sets the output level of the effect sound	
	Src	Off...Tempo	Selects the modulation source that will control the effect output level	
	Amt	–100...+100	Sets the modulation amount of the effect output level	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Frequency Bottom
a: Frequency Top

The sweep width and direction of the wah filter are determined by the "Frequency Top" and "Frequency Bottom" settings.



b: Sweep Mode

This parameter changes the wah control mode. Setting "Sweep Mode" to Auto will select an auto-wah that sweeps according to envelope changes in the input signal level. Auto-wah is frequently used for funk guitar parts and clav sounds.

When "Sweep Mode" is set to D-mod, you can control the filter directly via the modulation source in the same way as a wah pedal.

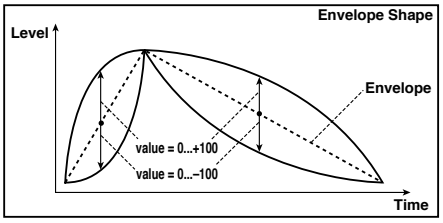
When "Sweep Mode" is set to LFO, the effect uses LFO to sweep in cycle.

c: Envelope Sens

This parameter sets the sensitivity of auto-wah. Increase the value if the input signal is too low to sweep. Reduce the value if the input signal is so high that the filter is stopped temporarily.

c: Envelope Shape

This parameter determines the sweep curve for auto-wah.



d: LFO Frequency [Hz]
e: MIDI Sync

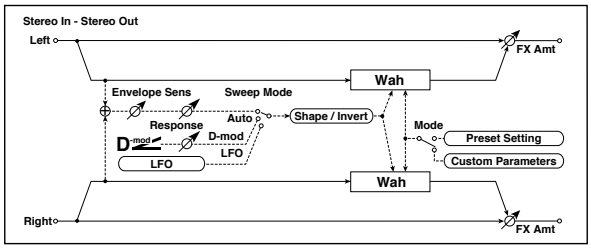
When "MIDI/Tempo Sync"=Off, the LFO speed uses the LFO Frequency parameter setting. When "MIDI/Tempo Sync"=On, the LFO speed follows the "BPM", "Base Note", and "Times" settings.

e: BPM
e: Base Note
e: Times

One cycle of LFO sweep is obtained by multiplying the length of a note (r…w) (selected for "Base Note", in relation to the tempo specified in "BPM", or the MIDI Clock tempo if "BPM" is set to MIDI) by the number specified in the Times parameter.

12: St. Vintage Wah (Stereo Vintage/Custom Wah)

This effect simulates the tonal character of a vintage wah pedal. You can customize the tone and range settings.



a	Mode	Preset, Custom	Selects either preset or custom settings	
	Shape	–100...+100	Sets the curve of the sweep	
	Invert	Off, On	Inverts the polarity of the sweep	
b	Frequency Bottom	0...100	Sets the lower limit of the wah center frequency when Mode = Custom	
	Frequency Top	0...100	Sets the upper limit of the wah center frequency when Mode = Custom	
c	Resonance Bottom	0...100	Sets the lower limit of resonance amount when Mode=Custom	
	Resonance Top	0...100	Sets the upper limit of resonance amount when Mode=Custom	
d	Sweep Mode	Auto, D-mod, LFO	Selects the control from auto-wah, modulation source, and LFO	
	Src	Off...Tempo	Selects the modulation source for the wah when Sweep Mode=D-mod	
	Manual	0...100	Sets the center frequency when Sweep Mode=D-mod and Source=Off	
e	Envelope Sens	0...100	Sets the auto-wah sensitivity	
	Response	0...100	Sets the speed of response when Sweep Mode=Auto or D-mod	
f	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
g	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
h	Output Level	0...100	Sets the output level of the effect sound	
	Src	Off...Tempo	Selects the modulation source that will control the effect output level	
	Amt	–100...+100	Sets the modulation amount of the effect output level	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Shape

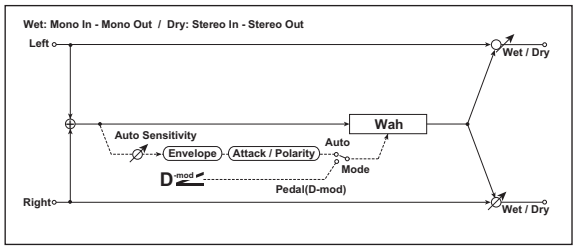
This parameter specifies the sweep curve of the wah. It applies to all control via auto-wah, modulation source, and LFO, and lets you adjust subtle nuances of the wah effect.

a: Mode
b: Frequency Bottom
b: Frequency Top
c: Resonance Bottom
c: Resonance Top

If Mode=Preset, this simulates a vintage wah pedal. In this case, internally fixed values are used for Frequency Bottom/Top and Resonance Bottom/Top, and these settings will be ignored. The settings for Frequency Bottom/Top and Resonance Bottom/Top are valid if Mode=Custom.

13: VOX Wah

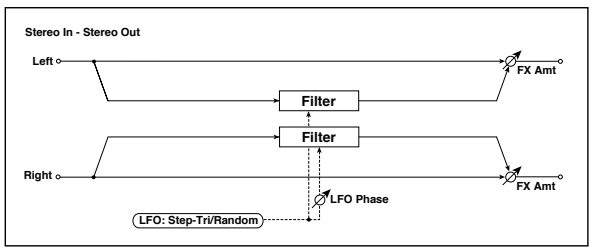
This models the legendary VOX V847 and V848 Clyde McCoy wah pedals. Its distinctive tone, sounding as though it were wrung from the throat, made this pedal a favorite of many pro musicians.



Type	V847, V848	Selects the type of wah	
Open	1...100	Sets the lower limit of the wah center frequency page 113	
Close	1...100	Sets the upper limit of the wah center frequency page 113	
Mode	Pedal(Dmod), Auto	Switches between pedal wah and auto-wah	
Pedal Source	0...100	Specifies the modulation source that will use the pedal wah	D-mod
Pedal Manual	0...100	Sets the center frequency for the pedal wah when the modulation source is not moved	
Auto Sensitivity	0...100	Sets the auto-wah sensitivity	
Auto Polarity	Auto, D-mod, LFO	Specifies whether the auto-wah sweep is normal or inverted	
Auto Attack		Sets the auto-wah's attack speed	
Wet/Dry		Balance between the wet and dry signal	D-mod
Source		Table , "Selects a modulation source for Wet/Dry," on page 107	
Amount		Table , "Sets the modulation amount for Wet/Dry," on page 107	

14: St. Random Filter (Stereo Random Filter)

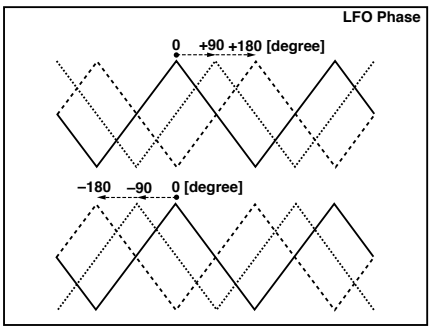
This stereo band pass filter uses a step-shape waveform and random LFO for modulation. You can create a special effect from filter oscillation.



a	LFO Waveform	Step-Tri, Random	Selects the LFO Waveform	
	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
b	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects the modulation source used for both LFO speed and step speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
c	LFO Step Freq [Hz]	0.05...50.00	Sets the LFO step speed (speed that changes in steps	
	Amt	–50.00... +50.00	Sets the modulation amount of LFO step speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
e	Step Base Note	r...w	Selects the type of notes to specify the LFO step speed	Sync
	Times	x1...x32	Sets the number of notes to specify the LFO step speed	
f	Manual	0...100	Sets the filter center frequency	
	Src	Off...Tempo	Selects the modulation source for the filter center frequency	
	Amt	–100...+100	Sets the modulation amount for the filter center frequency	
g	Depth	0...100	Sets the modulation depth of filter center frequency	
	Src	Off...Tempo	Selects the modulation source of filter modulation	
	Amt	–100...+100	Sets the modulation amount of filter modulation	
h	Resonance	0...100	Sets the resonance amount	
i	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: LFO Phase [degree]

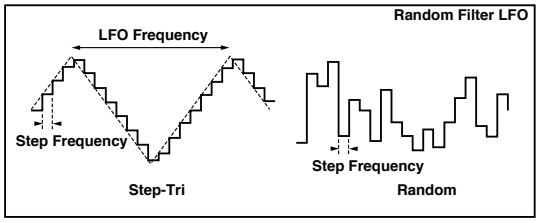
Offsetting the left and right phases alters how modulation is applied to the left and right channels, creating a swelling affect.



a: LFO Waveform
b: LFO Frequency [Hz]
c: LFO Step Freq [Hz]

When "LFO Waveform" is set to Step-Tri, LFO is a step-shape, triangle waveform. The "LFO Frequency" parameter sets the original triangle waveform speed. Changing the "LFO Step Freq" parameter enables you to adjust the width of the steps.

When "LFO Waveform" is set to Random, the "LFO Step Freq" parameter uses a random LFO cycle.



d: BPM

e: Step Base Note

e: Times

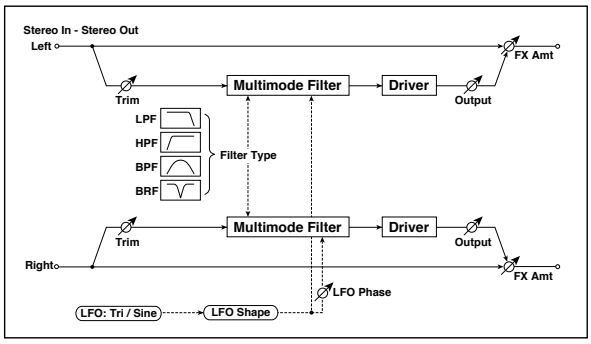
The width of an LFO step, or a cycle of random LFO, is obtained by multiplying the length of a note (r…w) (selected for "Step Base Note", in relation to the tempo specified in "BPM," or the MIDI Clock tempo if "BPM" is set to MIDI) by the number specified in the "Times" parameter.

i: Wet/Dry

The effect sound's phase will be reversed when you set this parameter in the negative range of values.

15: St. MultiModeFilter (Stereo Multi Mode Filter)

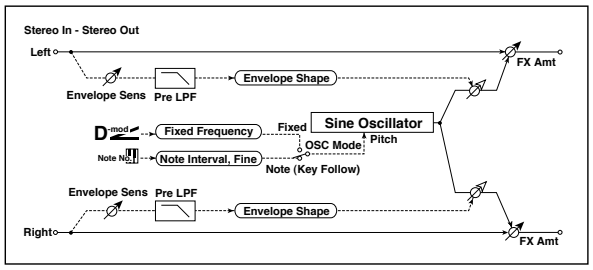
This is a multi-mode filter with four types; low pass, high pass, band pass, and band reject. You can use LFO or dynamic modulation to vary the cutoff frequency or resonance.



a	Type	LPF, HPF, BPF, BRF	Selects the type of filter	
	Trim	0...100	Sets the input level	
b	Cutoff	0...100	Sets the cutoff frequency (center frequency)	
	Src	Off...Tempo	Selects the modulation source of the cutoff	
	Amt	–100...+100	Sets the modulation amount of the cutoff	
c	Resonance	0...100	Sets the resonance amount	
	Src	Off...Tempo	Selects the source that will modulate the amount of resonance	
	Amt	–100...+100	Sets the amount by which the resonance will be modulated	
d	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
	Depth	0...100	Sets the depth to which the LFO will modulate the cutoff frequency	
e	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
f	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
g	Drive SW	Off, On	Switches distortion on/off within the filter	
	Output Level	0...100	Sets the output level	
h	Drive Gain	0...100	Sets the distortion amount	
	Low Boost	0...100	Sets the amount of low-range boost	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

16: St. Sub Oscillator (Stereo Sub Oscillator)

This effect adds very low frequencies to the input signal. It is very useful when simulating a roaring drum sound or emphasizing powerful low range. This effect is different from the equalizer in that you can add very low range harmonics. You can also adjust the oscillator frequency to match a particular note number, for use as an octaver.



a	OSC Mode	Note (Key Follow), Fixed	Determines whether the oscillator frequency follows the note number or whether it is fixed	
b	Note Interval	–48...0	Sets the pitch difference from the note number when OSC Mode=Note (Key Follow)	
	Note Fine	–100...+100	Fine adjustment of the oscillator frequency	
c	Fixed Frequency [Hz]	10.0...80.0	Sets the oscillator frequency when OSC Mode=Fixed	
	Src	Off...Tempo	Selects the modulation source for the oscillator frequency when OSC Mode=Fixed	
	Amt	–80...+80	Sets the oscillator frequency modulation amount when OSC Mode=Fixed	
d	Envelope Pre LPF	1...100	Sets the upper limit of the frequency range for which very low harmonics are added	
e	Envelope Sens	0...100	Sets the sensitivity with which very low harmonics are added	
	Envelope Shape	–100...+100	Sets the oscillator's volume envelope curve	
f	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: OSC Mode

b: Note Interval

b: Note Fine

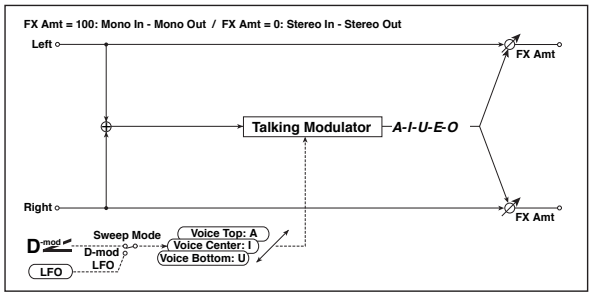
The "OSC Mode" parameter selects the oscillator operation mode. When Note (Key Follow) is selected, the oscillator's frequency is determined based on the note number, allowing you to use it as an octaver. The "Note Interval" parameter sets the pitch offset from the original note number by semitone steps. The "Note Fine" parameter allows you to fine-tune in steps of cents.

d: Envelope Pre LPF

This parameter sets the upper limit of the frequency range to which very low harmonics are added. Adjust this parameter if you do not want to add lower harmonics to the higher range.

17: Talking Modulator

This effect adds an unusual character, like a human voice, to the input signal. Modulating the tone via dynamic modulation, you can create an interesting effect that sounds as if the guitar or synthesizer is talking.



a	Sweep Mode	D-mod, LFO	Switches between modulation source control and LFO control	
b	Manual Voice Control	Bottom, 1...49, Center, 51...99, Top	Voice pattern control	
	Src	Off...Tempo	Selects the modulation source that controls the voice pattern	
c	Voice Top	A, I, U, E, O	Selects a vowel sound at the top end of control	
d	Voice Center	A, I, U, E, O	Selects a vowel sound in the center of control	
e	Voice Bottom	A, I, U, E, O	Selects a vowel sound at the bottom end of control	
f	Formant Shift	–100...+100	Sets the frequency to which the effect is applied	
	Resonance	0...100	Sets the Level of resonance of the voice pattern	
g	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
h	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

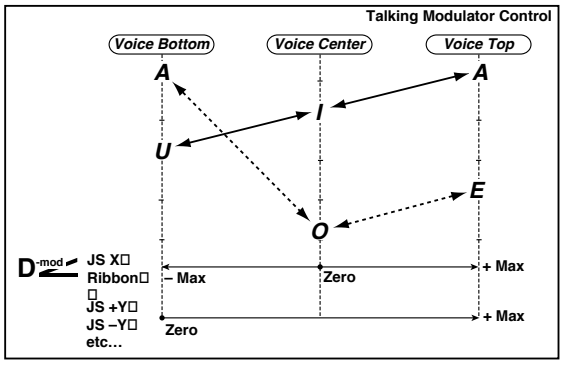
c: Voice Top
d: Voice Center
e: Voice Bottom

These parameters assign vowels to the top, center, and bottom position of the controller.

E.g.: When "Voice Top"=A, "Voice Center"=I, and "Voice Bottom"=U:

If "Sweep Mode"is set to D-mod and Ribbon is selected as the modulation source, moving your finger from the right to left of the ribbon controller will change the sound from "a" to "i," then "u."

If Sweep Mode is set to LFO, the sound will change cyclically from "a" to "i," "u," "i," then "a."



f: Formant Shift

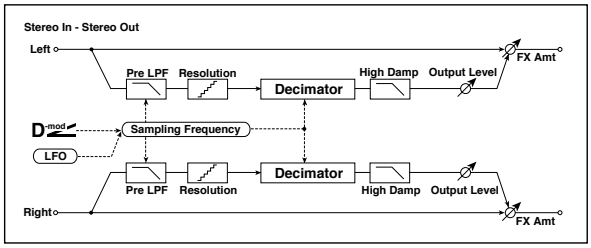
This parameter adjusts the frequency level to which the effect is applied. If you wish to apply the effect to a higher-range sound, set this parameter to a higher value; to apply the effect to a lower-range sound, set this to a lower value.

f: Resonance

This parameter sets the intensity of resonance for the voice pattern. A larger value will add more character to the sound.

18: Stereo Decimator

This effect creates a rough sound like a cheap sampler by lowering the sampling frequency and data bit length. You can also simulate noise unique to a sampler (aliasing).



a	Pre LPF	Off, On	Selects whether the harmonic noise caused by a decrease in sampling frequency is generated or not	
	High Damp [%]	0...100	Sets the ratio of cut of the high range	
b	Sampling Freq [Hz]	1.00k... 48.00k	Sets the sampling frequency	
	Src	Off...Tempo	Selects the modulation source of the sampling frequency	
	Amt	–48.00k... +48.00k	Sets the modulation amount of the sampling frequency	
c	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
e	Depth	0...100	Sets the depth of the sampling frequency LFO modulation	
	Src	Off...Tempo	Selects the LFO modulation source of the sampling frequency	
	Amt	–100...+100	Sets the LFO modulation amount of the sampling frequency	
f	Resolution	4...24	Sets the data bit length	
g	Output Level	0...100	Sets the output level	
	Src	Off...Tempo	Selects the modulation source for the output level	
	Amt	–100...+100	Sets the modulation amount of the output level	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Pre LPF

If a sampler with a very low sampling frequency receives very high-pitched sound that could not be heard during playback, it could generate pitch noise that is unrelated to the original sound. Set "Pre LPF" to On to prevent this noise from being generated.

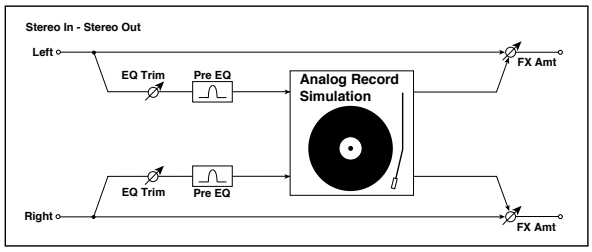
If you set the "Sampling Freq" to about 3 kHz and set "Pre LPF" to Off, you can create a sound like a ring modulator.

f: Resolution
g: Output Level

If you set a smaller value for the "Resolution" parameter, the sound may be distorted. The volume level may also be changed. Use "Output Level" to adjust the level.

19: St. Analog Record (Stereo Analog Record)

This effect simulates the noise caused by scratches and dust on analog records. It also reproduces some of the modulation caused by a warped turntable.



a	Speed [RPM]	33 1/3, 45, 78	Sets the r.p.m. of a record	
b	Flutter	0...100	Sets the modulation depth	
c	Noise Density	0...100	Sets the noise density	
	Noise Tone	0...100	Sets the noise tone	
d	Noise Level	0...100	Sets the noise level	
	Src	Off...Tempo	Selects the modulation source for the noise level	
	Amt	–100...+100	Sets the modulation amount of the noise level	
e	Click Level	0...100	Sets the click noise level	
	Src	Off...Tempo	Selects the modulation source for the click noise level	
	Amt	–100...+100	Sets the modulation amount of the click noise level	
f	EQ Trim	0...100	Sets the EQ input level	
g	Pre EQ Cutoff [Hz]	300...10.00k	Sets the EQ center frequency	
	Q	0.5...10.0	Sets the EQ band width	
	Gain [dB]	–18.0...+18.0	Sets the EQ gain	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

b: Flutter

This parameter enables you to set the depth of the modulation caused by a warped turntable.

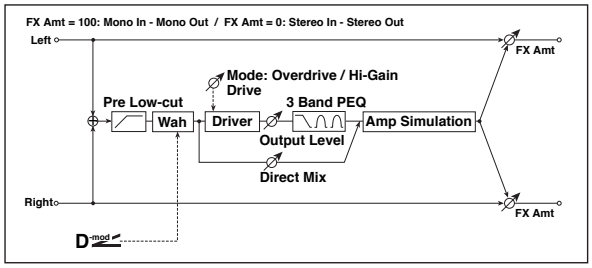
e: Click Level

This parameter enables you to set the level of the click noise that occurs once every rotation of the turntable. This simulation reproduces record noise, and the noise generated after the music on a vinyl record finishes.

Overdrive, Amp models, and Mic models (OD Amp Mic)

20: OD/Hi.Gain Wah (Overdrive/Hi.Gain Wah)

This distortion effect utilizes an Overdrive mode and a Hi-Gain mode. Controlling the wah effect, the 3-band EQ, and the amp simulation will allow you to create versatile distortion sounds. This effect is suitable for guitar and organ sounds.



a	Wah	Off, On	Switches Wah on/off	
	Src	Off...Tempo	Selects the modulation source that switches the Wah on and off	
	Sw	Toggle, Moment	Selects the switching mode for the modulation source that switches the Wah on and off	
b	Wah Sweep Range	–10...+10	Sets the range of Wah	
	Wah Sweep Src	Off...Tempo	Selects the modulation source that controls the Wah	
c	Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and hi-gain distortion	
d	Drive	1...100	Sets the degree of distortion	
	Pre Low-cut	0...10	Sets the low range cut amount of the distortion input	
e	Output Level	0...50	Sets the output level	
	Src	Off...Tempo	Selects the modulation source for the output level	
	Amt	–50...+50	Sets the modulation amount of the output level	
f	Low Cutoff [Hz]	20...1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	–18...+18	Sets the gain of Low EQ	
g	Mid1Cutoff [Hz]	300...10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 1	
h	Mid2 Cutoff [Hz]	500...20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 2	
i	Direct Mix	0...50	Sets the amount of the dry sound mixed to the distortion	
	Speaker Simulation	Off, On	Switches the speaker simulation on/off	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Wah

The Wah parameter switches the wah effect on/off.

a: Sw

This parameter sets how the wah effect is switched on and off via the modulation source.

When "Sw" = Moment, the wah effect is usually turned off. It is turned on only when you press the pedal or operate the joystick.

MIDI When a value for the modulation source is less than 64, "off" speed is selected, and when the value is 64 or higher, "on" is selected.

When "Sw" = Toggle, the wah effect is switched between on and off each time you press the pedal or operate the joystick.

MIDI The switch will be turned on/off each time the value of the modulation source exceeds 64.

b: Wah Sweep Range
b: Wah Sweep Src

This parameter sets the sweep range of the wah center frequency. A negative value will reverse the direction of sweep. The wah center frequency can be controlled by the modulation source specified in the "Wah Sweep Src" parameter.

d: Pre Low-cut

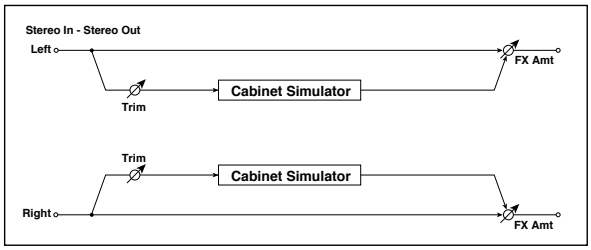
Cutting the signal in the low range before it is input to the Distortion will create a sharp distortion.

d: Drive
e: Output Level

The degree of distortion is determined by the level of input signal and the setting of "Drive". Raising the "Drive" setting will cause the entire volume level to increase. Use the "Output Level" parameter to adjust the volume level. The "Output Level" parameter uses the signal level input to the 3-Band EQ. If clipping occurs at the 3-Band EQ, adjust the "Output Level" parameter.

21: St. Guitar Cabinet (Stereo Guitar Cabinet)

This simulates the acoustical character of a guitar amp's speaker cabinet.



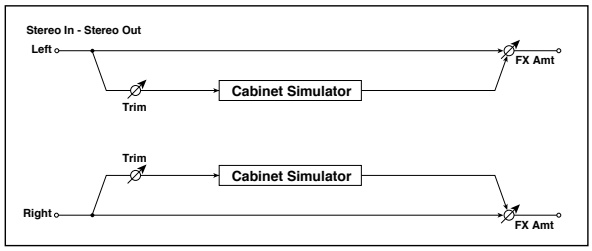
a	Trim	0...100	Sets the input level	
b	Type		Selects the type of the cabinet	
		TWEED - 1x12	Open-back cabinet with one 12" speaker, typically used for blues	
		TWEED - 4x10	Open-back cabinet with four 10" speakers	
		BLACK - 2x10	Open-back cabinet with two 10" speakers	
		BLACK - 2x12	American open-back cabinet with two12" speakers	
		VOX AC15 - 1x12	Vox AC15 open-back cabinet with one 12" "Blue" speaker	
		VOX AC30 - 2x12	Vox AC30 open-back cabinet with two 12" "Blue" speakers	
		VOX AD412 - 4x12	VOX AD412 closed-back cabinet with four 12" speakers	
		UK H30 - 4x12	Closed-back classic cabinet with four 30W 12" speakers	
		UK T75 - 4x12	Closed-back cabinet with four 75W 12" speakers	
		US V30 - 4x12	Closed-back cabinet with four 30W 12" speakers	
c	Air	0...100	Sets the mic position	
d	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

22: Gtr. Cabinet + NR

This simulates the acoustic qualities of a guitar amp's speaker cabinet. It also adds a Noise Reduction control.

23: St. Bass Cabinet (Stereo Bass Cabinet)

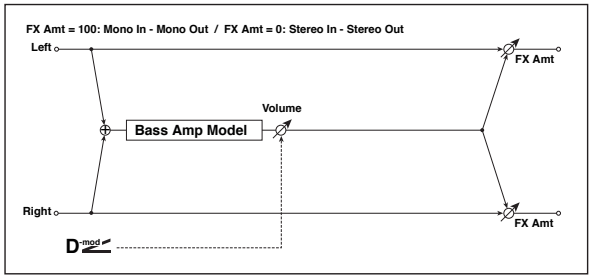
This simulates the acoustical character of a bass amp's speaker cabinet.



a	Trim	0...100	Sets the input level	
b	Cabinet Type		Selects the cabinet type	
		LA - 4x10	Four 10" speakers / LA sound cabinet	
		MODERN - 4x10	Four 10" aluminum-cone speakers / modern cabinet	
		METAL - 4x10	Four 10" aluminum-cone speakers / modern cabinet	
		CLASSIC - 8x10	Eight 10" speakers / classic cabinet	
		UK - 4x12	Four 12" speakers / UK-manufactured cabinet	
		STUDIO - 1x15	One 15" speaker / studio combo cabinet	
		JAZZ - 1x15	One 15" speaker / jazz combo cabinet	
		VOX AC100 - 2x15	Two 15" speakers / cabinet for Vox AC100	
		US - 2x15	Two 15" speakers / US-manufactured cabinet	
		UK - 4x15	Four 15" speakers / UK-manufactured cabinet	
		LA - 1x18	One 18" speaker / LA sound cabinet	
		COMBI - 1x12 & 1x18	One 12" and one 18" speaker combination cabinet	
c	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

24: Bass Amp Model

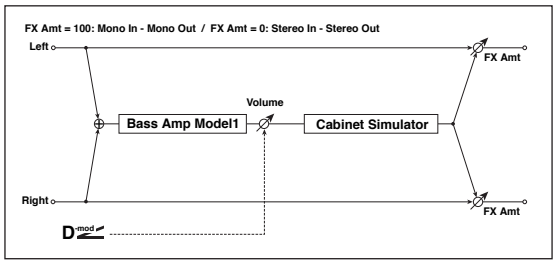
This simulates a bass amp.



a	Amp Type		Selects the amplifier type	
		LA STUDIO	An amp that is typical of the LA sound.	
		JAZZ	A combo amp favored by jazz bassists.	
		GOLD PANEL	An amp distinctive for its eye-catching gold panel and clean sound.	
		SCOOPED	An amp typical of 80's sounds.	
		VALVE2	A tube amp suitable for rock.	
		VALVE	A tube amp with the ULTRA LO switch turned ON.	
		CLASSIC	A tube amp whose basic character changes according to the setting of the value dial.	
b	Volume	0...100	Sets the output level	
	Src	Off...Tempo	Selects the modulation source for the output level	
	Amt	–100...+100	Sets the modulation amount of the output level	
c	Bass	0...100	Sets the bass (low range) level	
d	Middle	0...100	Sets the middle (mid range) level	
	Mid Range	0...4	Sets the mid-frequency range	
e	Treble	0...100	Sets the treble (high range) level	
f	Presence	0...100	Sets the presence (high-frequency tone)	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

25: Bass Amp+Cabinet (Bass Amp Model+Cabinet)

This simulates a bass amp and speaker cabinet.



a	Amp Type	LA STUDIO, JAZZ , GOLD PANEL, SCOOPED, VALVE2, VALVE, CLASSIC	Selects the type of the amplifier	
b	Volume	0...100	Sets the output level	
	Src	Off...Tempo	Selects the modulation source for the output level	
	Amt	–100...+100	Sets the modulation amount of the output level	
c	Bass	0...100	Sets the bass (low range) level	
d	Middle	0...100	Sets the middle (mid range) level	
	Mid Range	0...4	Sets the mid-frequency range	
e	Treble	0...100	Sets the treble (high range) level	
f	Presence	0...100	Sets the presence (high-frequency tone)	
g	Cabinet Simulater	Off, On	Switches the cabinet simulator on/off	
h	Cabinet Type	LA - 4x10, MODERN - 4x10, METAL - 4x10, CLASSIC - 8x10, UK - 4x12, STUDIO - 1x15, JAZZ - 1x15, VOX AC100 - 2x15, US - 2x15, UK - 4x15, LA - 1x18, COMBI - 1x12 & 1x18	Selects the cabinet type	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

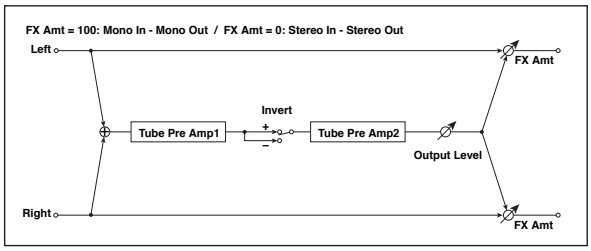
a: Amp Type
h: Cabinet Type

Recommended Combinations of Bass Amp Models and Cabinets:

Amp Type	Cabinet Type
LA STUDIO	LA - 4x10, LA - 1x18
JAZZ	JAZZ - 1x15
GOLD PANEL	MODERN - 4x10
SCOOPED	METAL - 4x10
VALVE2	CLASSIC - 8x10
VALVE	CLASSIC - 8x10
CLASSIC	COMBI - 1x12 & 1x18

26: Tube PreAmp Model (Tube PreAmp Modeling)

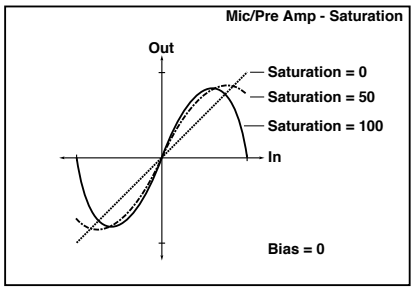
This effect simulates a two-stage vacuum tube preamp. You can make individual settings for two vacuum tubes connected in series. This lets you create the warm sound typical of vacuum tubes.



a	Tube1 Low Cut [Hz]	Thru, 21...8.00k	Sets the cutoff frequency for the low cut filter of stage 1	
	High Cut [Hz]	53...20.00k, Thru	Sets the cutoff frequency for the high cut filter of stage 1	
b	Tube1 Gain [dB]	–24.0...+24.0	Sets the input gain for stage 1	
	Saturation [%]	0...100	Sets the input/output response for stage 1	
c	Tube1 Bias	0...100	Sets the bias voltage for stage 1	
d	Tube1 Phase	Normal, Wet Invert	Turns phase reversal on/off	
e	Tube2 Low Cut [Hz]	Thru, 21...8.00k	Sets the cutoff frequency for the low cut filter of stage 2	
	High Cut [Hz]	53...20.00k, Thru	Sets the cutoff frequency for the high cut filter of stage 2	
f	Tube2 Gain [dB]	–24.0...+24.0	Sets the input gain for stage 2	
	Saturation [%]	0...100	Sets the input/output response for stage 2	
g	Tube2 Bias	0...100	Sets the bias voltage for stage 2	
h	Tube2 Output Level [dB]	–48.0...+0.0	Sets the output level	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

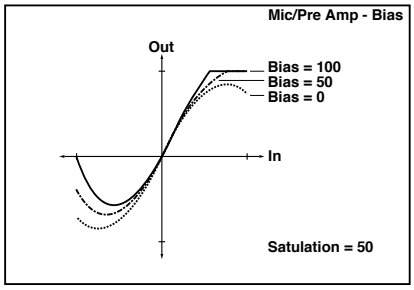
b, f: Saturation [%]

With higher settings of this value, the waveform will change at high gain levels, tending to cause distortion. Lower settings of this value will produce linear response.



c: Tube1 Bias

This expresses the effect that changes in vacuum tube bias have on the distortion of the waveform. Higher settings of this value will produce distortion even at low gain levels. Since this will also change the overtone structure, you can use it to control the tonal character.

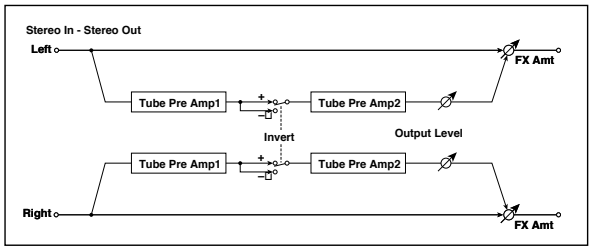


d: Tube1 Phase

With the Wet Invert setting, the phase of the signal will be inverted between stage 1 and stage 2. Since "Bias" is applied to the inverted signal in stage 2, this will change the tonal character.

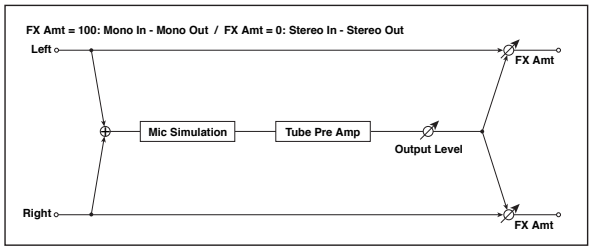
27: St. Tube PreAmp (Stereo Tube PreAmp Modeling)

This is a stereo vacuum tube preamp simulator (See "Tube Pre-Amp Model (Tube PreAmp Modeling)" on page 121.).



28: Mic Model+PreAmp (Mic Modeling + PreAmp)

This effect simulates a mic and vacuum tube preamp. You can choose from various types of mic and positions to create differing sonic characters.



a	Mic Type	Vintage Dynamic, Multi Condenser, Percussion Condenser, Drums Dynamic, Vocal Dynamic, Multi Dynamic, Vocal Condenser, Vocal Tube, Kick Dynamic	Selects the type of mic	
b	Mic Position	Close, On, Off, Far	Sets the mic placement distance	
c	Tube Low Cut [Hz]	Thru, 21...8.00k	Sets the frequency of the low cut filter	
	High Cut [Hz]	53...20.00k, Thru	Sets the frequency of the high cut filter	
d	Tube Gain [dB]	–24.0...+24.0	Sets the input gain to the vacuum tube preamp	
	Saturation [%]	0...100	Sets the input/output response of the preamp	
e	Tube Bias	0...100	Sets the bias level of the preamp	
f	Tube Output Level [dB]	–48.0...+0.0	Sets the output level of the preamp	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

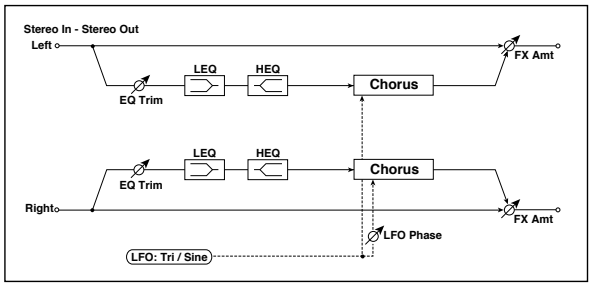
b: Mic Position

This expresses the effect that the mic position has on the sound. The Close setting is the closest mic position, and the Far setting is the farthest.

Chorus, Flanger, and Phaser (Cho/Fln Phaser)

29: Stereo Chorus

This effect adds thickness and warmth to the sound by modulating the delay time of the input signal. You can add spread to the sound by offsetting the phase of the left and right LFOs from each other.



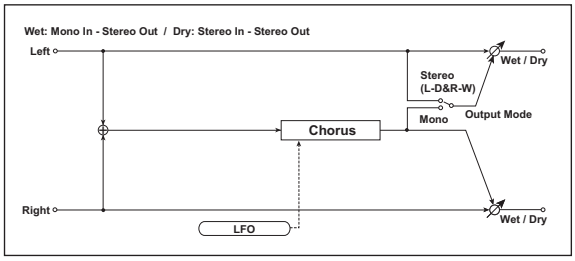
a	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
b	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
c	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
d	L Pre Delay [msec]	0.0...50.0	Sets the delay time for the left channel	
	R Pre Delay [msec]	0.0...50.0	Sets the delay time for the right channel	
e	Depth	0...100	Sets the depth of LFO modulation	
	Src	Off...Tempo	Selects the modulation source for the LFO modulation depth	
	Amt	–100...+100	Sets the modulation amount of the LFO modulation depth	
f	EQ Trim	0...100	Sets the EQ input level	
g	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
h	Pre LEQ Gain [dB]	–15.0...+15.0	Gain of the Low EQ	
	Pre HEQ Gain [dB]	–15.0...+15.0	Gain of the High EQ	
i	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

d: L Pre Delay [msec]
d: R Pre Delay [msec]

Setting the left and right delay time individually allows you to control the stereo image.

30: Classic Chorus

This models a famous chorus unit that was built into a guitar amp. Although it does not provide a chorus and vibrato select switch, you can use the “Wet/Dry” and “Bus” settings to produce their effect. The “Speed,” “Depth,” and “Manual” parameters allow an even wider range of sounds than the original unit.



Speed [Hz]	0.10...10.0	Sets the speed of LFO	
Depth	0...100	Sets the modulation depth	
Manual	1...100	Sets the sweep frequency	
Output Mode	0, 1	Sets the outpu mode 0: Mono 1: ST (L-D& R-W)	
Wet/Dry	Dry, 1:99 ... 99:1, Wet	Balance between the wet and dry signal	D-mod
Source	Off...Tempo	Table , “Selects a modulation source for Wet/Dry,” on page 107	
Amount	–100 ... +100	Table , “Sets the modulation amount for Wet/Dry,” on page 107	

Wet/Dry
Output Mode

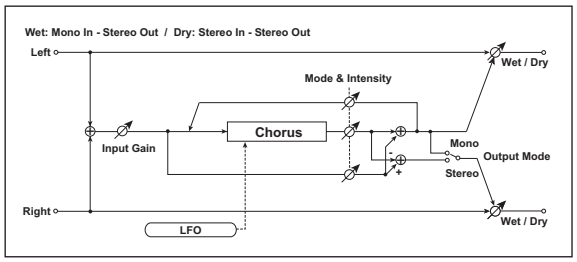
For the master effects, “Wet/Dry” adjusts the output level of the effect sound.

When “Output Mode” is Mono, L and R will output the same vibrato effect. Normally, you’ll produce a chorus effect by adjusting the return level to mix the processed sound with the direct sound. If you turn “Bus” Off and adjust the settings so that none of the direct sound is mixed in, a vibrato effect will be produced.

If “Output Mode” is ST (L-D&R-W), the direct sound will be panned to L, and the effect sound will be panned to R for output. Normally, you’ll mix the direct sound and effect sound by adjusting the return level, applying chorus only to the R channel, and producing a stereo effect that’s spread to the left and right. If you turn “Bus” Off, pan the direct sound and effect sound to the left and right, and output them from stereo speakers, the effect sound and direct sound will be panned in stereo, producing a clear and spacious chorus effect.

31: Black Chorus/Flanger

This models a Danish-made stereo chorus + pitch modulator & flanger. Although this effect was originally intended for guitar, it was also used by numerous keyboard players. Used with electric piano, it produces a distinctive tone.



Speed [Hz]	0.10...10.0	Sets the LFO speed	
Intensity	1...100	Sets the intensity of LFO modulation	
Mode	0, 1, 2	Select a mode 0: Chorus 1: Pitch Modulation 2: Flanger	
Width	0...2	Sets the LFO modulation depth	
Input Gain	1...100	Sets the input gain	
Output Mode	0, 1	Select a output mode 0: Mono 1: Stereo	
Wet/Dry	Dry, 1:99 ... 99:1, Wet	Balance between the wet and dry signal	D-mod
Source	Off...Tempo	Table , “Selects a modulation source for Wet/Dry,” on page 107	
Amount	–100 ... +100	Table , “Sets the modulation amount for Wet/Dry,” on page 107	

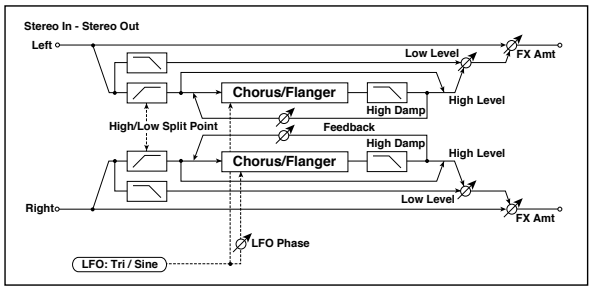
Mode

Intensity

Increasing the “Intensity” value will strengthen the modulation effect. This controls the effect, direct, and feedback values. The values that are controlled will depend on the “Mode” setting.

32: St.HarmonicChorus (Stereo Harmonic Chorus)

This effect applies chorus only to higher frequencies. This can be used to apply a chorus effect to a bass sound without making the sound thinner. You can also use this chorus block with feedback as a flanger.



a	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
b	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
c	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
d	Pre Delay [msec]	0.0...50.0	Sets the delay time from the original sound	
e	Depth	0...100	Sets the depth of LFO modulation	
	Src	Off...Tempo	Selects the modulation source of the LFO modulation depth	
	Amt	–100...+100	Sets the modulation amount of the LFO modulation depth	
f	High/Low Split Point	1...100	Sets the frequency split point between the low and high range	
g	Feedback	–100...+100	Sets the feed back amount of the chorus block	
	High Damp [%]	0...100	Sets the high range damping amount of the chorus block	
h	Low Level	0...100	Sets the low range output level	
	High Level	0...100	Sets the high range (chorus) output level	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

f: High/Low Split Point

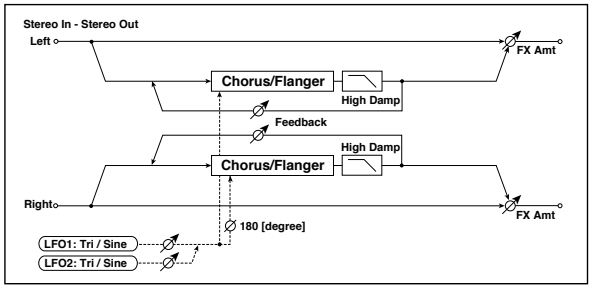
This parameter sets the frequency that splits the high and low range. Only the high range will be sent to the chorus block.

g: Feedback

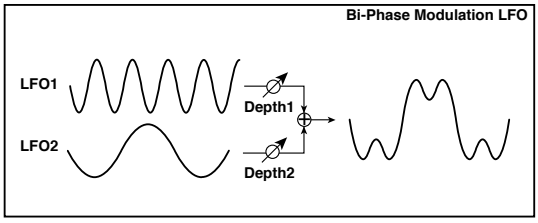
Sets the feedback amount of the chorus block. Increasing the feedback will allow you to use the effect as a flanger.

33: St. Biphase Mod. (Stereo Biphase Modulation)

This stereo chorus effect adds two different LFOs together. You can set the Frequency and Depth parameters for each LFO individually. Depending on the setting of these LFOs, very complex waveforms will create an analog-type, unstable modulated sound.

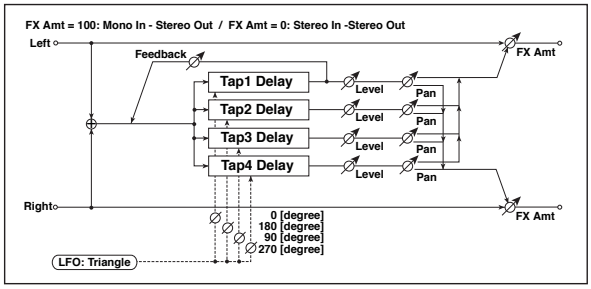


a	LFO1 Waveform	Triangle, Sine	Selects LFO1 waveform	
	LFO2	Triangle, Sine	Selects LFO2 waveform	
	Phase Sw	0 deg, 180 deg	Switches the LFO phase difference between left and right	
b	LFO1 Frequency [Hz]	0.02...30.00	Sets the LFO1 speed	
	Src	Off...Tempo	Selects the modulation source of LFO1&2 speed	
	LFO1 Amt	–30.00... +30.00	Sets the modulation amount of LFO1 speed	
c	LFO2 Frequency [Hz]	0.02...30.00	Sets the LFO2 speed	
	Amt	–30.00... +30.00	Sets the modulation amount of LFO2 speed	
d	Depth1	0...100	Sets the depth of LFO1 modulation	
	Src	Off...Tempo	Selects the modulation source of LFO1&2 modulation depth	
	Amt	–100...+100	Sets the modulation amount of LFO1 modulation depth	
e	Depth2	0...100	Sets the depth of LFO2 modulation	
	Amt	–100...+100	Sets the modulation amount of LFO2 modulation depth	
f	L Pre Delay [msec]	0.0...50.0	Sets the delay time for the left channel	
	R Pre Delay [msec]	0.0...50.0	Sets the delay time for the right channel	
g	Feedback	–100...+100	Sets the feedback amount	
	High Damp [%]	0...100	Sets the damping amount in the high range	
h	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	



34: Multitap Cho/Delay (Multitap Chorus/Delay)

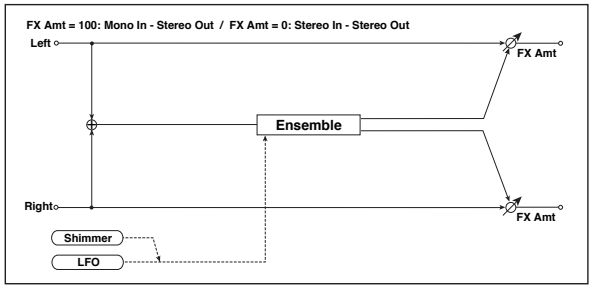
This effect has four chorus blocks with a different LFO phase. You can create a complex stereo image by setting each block’s delay time, depth, output level, and pan individually. You can also fix some of the chorus blocks to combine the chorus and delay effects.



a	LFO Frequency [Hz]	0.02...13.00	Sets the speed of the LFO	
b	Tap1 (000) [msec]	0...1000	Sets the Tap1 (LFO phase=0 degrees) delay time	
	Depth	0...30	Sets the Tap1 chorus depth	
	Level	0...30	Sets the Tap1 output level	
	Pan	L6...L1, C, R1...R6	Sets the Tap1 stereo image	
c	Tap2 (180) [msec]	0...1000	Sets the Tap2 (LFO phase=180 degrees) delay time	
	Depth	0...30	Sets the Tap2 chorus depth	
	Level	0...30	Sets the Tap2 output level	
	Pan	L6...L1, C, R1...R6	Sets the Tap2 stereo image	
d	Tap3 (090) [msec]	0...1000	Sets the Tap3 (LFO phase=90 degrees) delay time	
	Depth	0...30	Sets the Tap3 chorus depth	
	Level	0...30	Sets the Tap3 output level	
	Pan	L6...L1, C, R1...R6	Sets the Tap3 stereo image	
e	Tap4 (270) [msec]	0...1000	Sets the Tap4 (LFO phase=270 degrees) delay time	
	Depth	0...30	Sets the Tap4 chorus depth	
	Level	0...30	Sets the Tap4 output level	
	Pan	L6...L1, C, R1...R6	Sets the Tap4 stereo image	
f	Tap1 Feedback	–100...+100	Sets the Tap1 feedback amount	
	Src	Off...Tempo	Selects the modulation source of Tap1 feedback amount and effect balance	
	Amt	–100...+100	Sets the Tap1 feedback amount and modulation amount	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

35: Ensemble

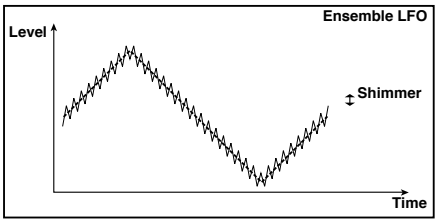
This Ensemble effect has three chorus blocks that use LFO to create subtle shimmering, and gives three dimensional depth and spread to the sound, because the signal is output from the left, right, and center.



a	Speed	1...100	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–100...+100	Sets the modulation amount of LFO speed	
b	Depth	0...100	Sets the depth of LFO modulation	
	Src	Off...Tempo	Selects the modulation source of the LFO modulation depth	
	Amt	–100...+100	Sets the modulation amount of the LFO modulation depth	
c	Shimmer	0...100	Sets the amount of shimmering of the LFO waveform	
d	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

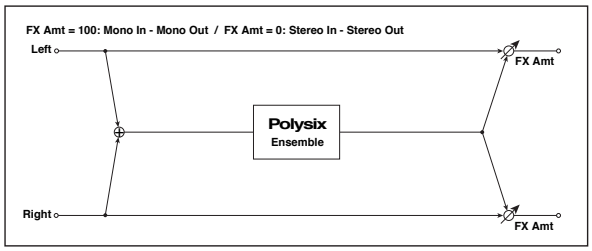
c: Shimmer

This parameter sets the amount of shimmering of the LFO waveform. Increasing this value adds more shimmering, making the chorus effect more complex and richer.



36: Polysix Ensemble

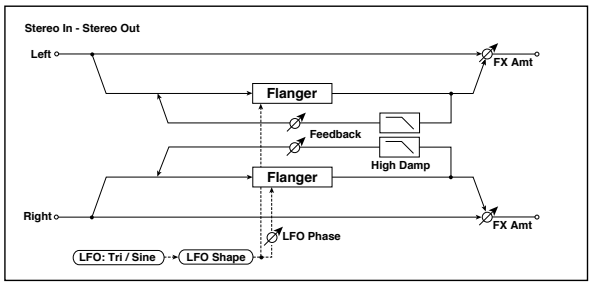
This models the ensemble effect built into the classic Korg PolySix programmable polyphonic synthesizer.



a	Depth	0...100	Sets the depth of the effect	
	Src	Off...Tempo	Selects the modulation source that will control the effect depth	
	Amt	–100...+100	Sets the amount by which the effect depth will be modulated	
b	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

37: Stereo Flanger

This effect gives a significant swell and movement of pitch to the sound. It is more effective when applied to a sound with a lot of harmonics. This is a stereo flanger. You can add spread to the sound by offsetting the phase of the left and right LFOs from each other.



a	Delay Time [msec]	0.0...50.0	Sets the delay time from the original sound	
b	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
c	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
d	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
e	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
f	Depth	0...100	Sets the depth of LFO modulation	
g	Feedback	–100...+100	Sets the feedback amount	
	High Damp [%]	0...100	Sets the feedback damping amount in the high range	
h	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

g: Feedback
h: Wet/Dry

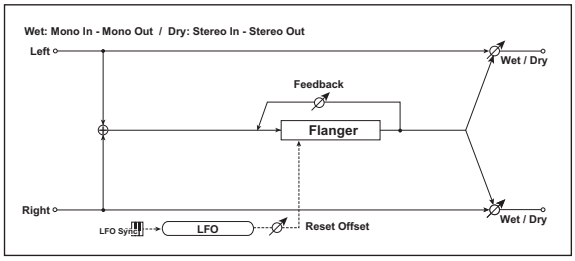
The peak shape of the positive and negative “Feedback” value is different. The harmonics will be emphasized when the effect sound is mixed with the dry sound if you set a positive value for both “Feedback” and “Wet/Dry”, and if you set a negative value for both “Feedback” and “Wet/Dry”.

g: High Damp [%]

This parameter sets the amount of damping of the feedback in the high range. Increasing the value will cut high-range harmonics.

38: Classic Flanger

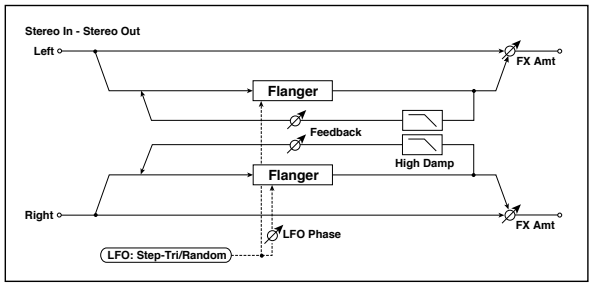
This models a classic analog flanger. It is highly effective for chording on clavi-type keyboards or electric piano.



Speed [Hz]	0.10...10.0	Sets the speed of LFO	
Depth	0...100	Sets the depth of LFO modulation	
Resonance	0...100	Sets the resonance amount	
Manual	1...100	Sets the sweep frequency	
LFO Reset Source	Off...Tempo	Selects a modulation source for LFO reset	
Reset Offset	0...100	Sets the offset	
Wet/Dry	–Wet... –1 : 99, Dry, 1 : 99...Wet	Balance between the wet and dry signal	D-mod
Source	Off...Tempo	Table , “Selects a modulation source for Wet/Dry,” on page 107	
Amount	–100...+100	Table , “Sets the modulation amount for Wet/Dry,” on page 107	

39: St. Random Flanger (Stereo Random Flanger)

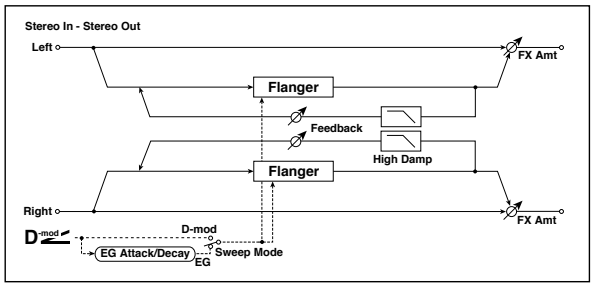
The stereo effect uses a step-shape waveform and random LFO for modulation, creating a unique flanging effect.



a	Delay Time [msec]	0.0...50.0	Sets the delay time from the original sound	
b	LFO Waveform	Step-Tri, Random	Selects the LFO Waveform	
	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
c	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects the modulation source used for both LFO speed and step speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
d	LFO Step Freq [Hz]	0.05...50.00	Sets the LFO step speed (speed that changes in steps)	
	Step Amt	–50.00... +50.00	Sets the modulation amount of LFO step speed	
e	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
f	Step Base Note	r...w	Selects the type of notes to specify the LFO step speed	Sync
	Times	x1...x32	Sets the number of notes to specify the LFO step speed	
g	Depth	0...100	Sets the depth of LFO modulation	
h	Feedback	–100...+100	Sets the feedback amount	
	High Damp [%]	0...100	Sets the feedback damping amount in the high range	
i	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

40: St. Env. Flanger (Stereo Envelope Flanger)

This Flanger uses an envelope generator for modulation. You will obtain the same pattern of flanging each time you play. You can also control the Flanger directly using the modulation source.



a	L Dly Bottom [msec]	0.0...50.0	Sets the lower limit of the left-channel delay time	
	L Dly Top [msec]	0.0...50.0	Sets the upper limit of the left-channel delay time	
b	R Dly Bottom [msec]	0.0...50.0	Sets the lower limit of the right-channel delay time	
	R Dly Top [msec]	0.0...50.0	Sets the upper limit of the right-channel delay time	
c	Sweep Mode	EG, D-mod	Determines whether the flanger is controlled by the envelope generator or by the modulation source	
	Src	Off...Tempo	Selects the modulation source that triggers the EG (when Sweep Mode = EG), or the modulation source that causes the flanger to sweep (when Sweep Mode = D-mod)	
d	EG Attack	1...100	Sets the EG attack speed	
	EG Decay	1...100	Sets the EG decay speed	
e	Feedback	–100...+100	Sets the feedback amount	
f	High Damp [%]	0...100	Sets the feedback damping amount in the high range	
g	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

c: Sweep Mode
c: Src

This parameter switches the flanger control mode. With “Sweep Mode” = EG, the flanger will sweep using the envelope generator. This envelope generator is included in the envelope flanger, and not related to the Pitch EG, Filter EG, or Amp EG.

The “Src” parameter selects the source that starts the envelope generator. If you select, for example, Gate, the envelope generator will start when the note-on message is received.

When “Sweep Mode” = D-mod, the modulation source can control the flanger directly. Select the modulation source using the “Src” parameter.

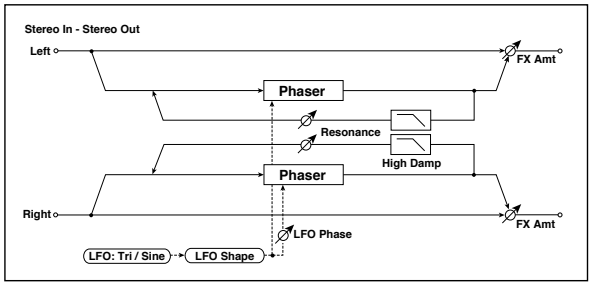
MIDI The effect is off when a value for the modulation source specified for the “Src” parameter is smaller than 64, and the effect is on when the value is 64 or higher. The Envelope Generator is triggered when the value changes from 63 or smaller to 64 or higher.

d: EG Attack
d: EG Decay

Attack and Decay speed are the only adjustable parameters on this EG.

41: Stereo Phaser

This effect creates a swell by shifting the phase. It is very effective on electric piano sounds. You can add spread to the sound by offsetting the phase of the left and right LFOs from each other.



a	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
b	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
c	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
e	Manual	0...100	Sets the frequency to which the effect is applied	
	Src	Off...Tempo	Selects the modulation source for the LFO modulation	
	Amt	–100...+100	Sets the modulation amount of the LFO modulation	
f	Depth	0...100	Sets the depth of LFO modulation	
	Src	Off...Tempo	Selects the modulation source for the LFO modulation depth	
	Amt	–100...+100	Sets the modulation amount of the LFO modulation depth	
h	Resonance	–100...+100	Sets the resonance amount	
	High Damp [%]	0...100	Sets the resonance damping amount in the high range	
j	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

h: Resonance
i: Wet/Dry

The peak shape of the positive and negative Feedback value is different. The harmonics will be emphasized when the effect sound is mixed with the dry sound, if you set a positive value for both "Resonance" and "Wet/Dry", and if you set a negative value for both "Resonance" and "Wet/Dry".

h: High Damp [%]

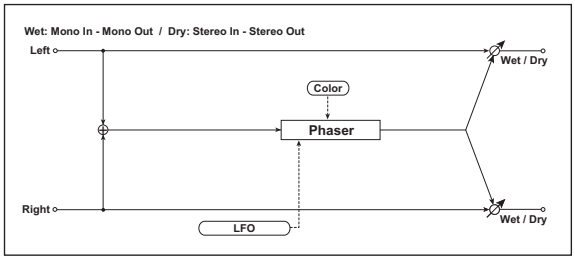
This parameter sets the amount of damping of the resonance in the high range. Increasing the value will cut high-range harmonics.

42: Orange Phaser

This models a standard model of analog phaser that achieved great popularity. It gives a sense of movement to electric piano sounds, adding a rich-sounding phase shift effect.

43: Small Phaser

This models a classic phaser that was born in New York during the 1970s. With a warm, rich tone, it is also loved by many electric piano players.



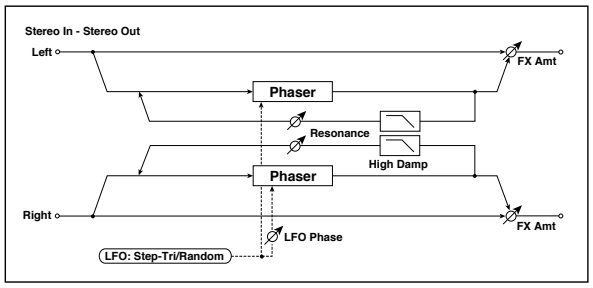
Speed [Hz]	0.10...10.0	Sets the speed of the LFO	
Color	Off, On	Switches the tone of the phaser sound page 129	
Wet/Dry	–Wet... –1 : 99, Dry, 1 : 99...Wet	Balance between the wet and dry signal page 115, page 129	D-mod
Source	Off...Tempo	Table , "Selects a modulation source for Wet/Dry," on page 107	
Amount	–100...+100	Table , "Sets the modulation amount for Wet/Dry," on page 107	

Color

This lets you choose between two types of phaser sound. Turning this On produces a deeper phase shift effect with a distinctive modulation.

44: St. Random Phaser (Stereo Random Phaser)

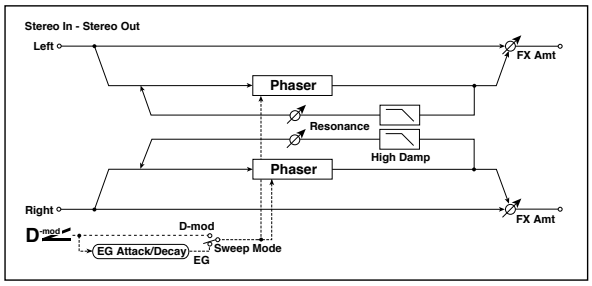
This is a stereo phaser. The effect uses a step-shape waveform and random LFO for modulation, creating a unique phasing effect.



a	LFO Waveform	Step-Tri, Step-Sin, Random	Selects the LFO Waveform	
	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
b	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects the modulation source commonly used for LFO speed and step speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
c	LFO Step Freq [Hz]	0.05...50.00	Sets the LFO step speed	
	Amt	–50.00... +50.00	Sets the modulation amount of LFO step speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
e	Step Base Note	r...w	Selects the type of notes to specify the LFO step speed	Sync
	Times	x1...x32	Sets the number of notes to specify the LFO step speed	
f	Manual	0...100	Sets the frequency to which the effect is applied	
	Src	Off...Tempo	Selects the modulation source for the LFO modulation	
	Amt	–100...+100	Sets the modulation amount of the LFO modulation	
g	Depth	0...100	Sets the depth of LFO modulation	
h	Resonance	–100...+100	Sets the resonance amount	
	High Damp [%]	0...100	Sets the resonance damping amount in the high range	
i	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

45: St. Env. Phaser (Stereo Envelope Phaser)

This stereo phaser uses an envelope generator for modulation. You will obtain the same pattern of phasing each time you play. You can also control the Phaser directly using the modulation source.

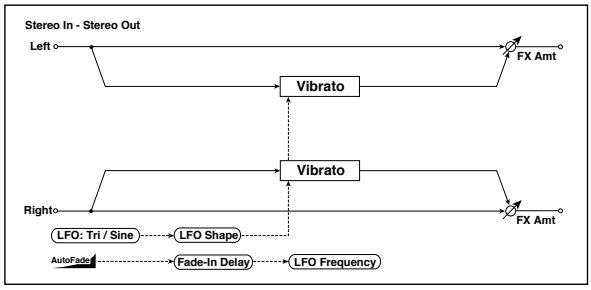


a	L Manu Bottom	0...100	Sets the lower limit of the frequency range for the effect on the left channel	
	L Manu Top	0...100	Sets the upper limit of the frequency range for the effect on the left channel	
b	R Manu Bottom	0...100	Sets the lower limit of the frequency range for the effect on the right channel	
	R Manu Top	0...100	Sets the upper limit of the frequency range for the effect on the right channel	
c	Sweep Mode	EG, D-mod	Determines whether the flanger is controlled by the envelope generator or by the modulation source	
	Src	Off...Tempo	Selects the modulation source that triggers the EG (when EG is selected for Sweep Mode), or modulation source that causes the flanger to sweep (when D-mod is selected for Sweep Mode)	
d	EG Attack	1...100	Sets the EG attack speed	
	EG Decay	1...100	Sets the EG decay speed	
e	Resonance	–100...+100	Sets the resonance amount	
f	High Damp [%]	0...100	Sets the resonance damping amount in the high range	
g	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

Modulation and Pitch Shift (Mod./P.Shift)

46: Stereo Vibrato

This effect causes the pitch of the input signal to shimmer. Using the AutoFade allows you to increase or decrease the shimmering speed.



a	AUTOFADE Src	Off...Tempo	Selects the modulation source that starts AutoFade	
b	Fade-In Delay [msec]	00...2000	Sets the fade-in delay time	
	Fade-In Rate	1...100	Sets the rate of fade-in	
c	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
d	LFO Frequency Mod	D-mod, AUTOFADE	Switches between D-mod and AUTOFADE for the LFO frequency modulation	
e	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
f	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
g	Depth	0...100	Sets the depth of LFO modulation	
	Src	Off...Tempo	Selects the modulation source of the LFO modulation depth	
	Amt	–100...+100	Sets the modulation amount of the LFO modulation depth	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: AUTOFADE Src
b: Fade-In Delay [msec]
b: Fade-In Rate
d: LFO Frequency Mod

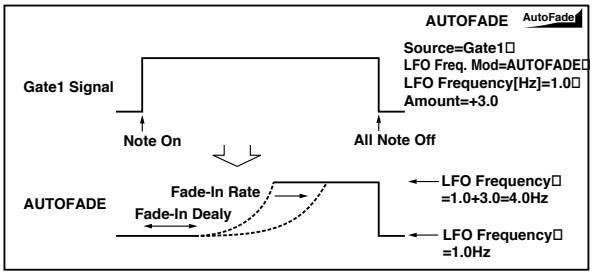
When “LFO Frequency Mod” is set to AUTOFADE, you can use the modulation source selected in “AUTOFADE Src” as a trigger to automatically fade in the modulation amount. When “MIDI Sync” is set to On, you cannot use this.

The “Fade-In Rate” parameter specifies the rate of fade-in. The “Fade-In Delay” parameter determines the time from AutoFade modulation source On until the fade-in starts.

The following is an example of fade-in where the LFO speed is increased from “1.0Hz” to “4.0Hz” when a note-on message is received.

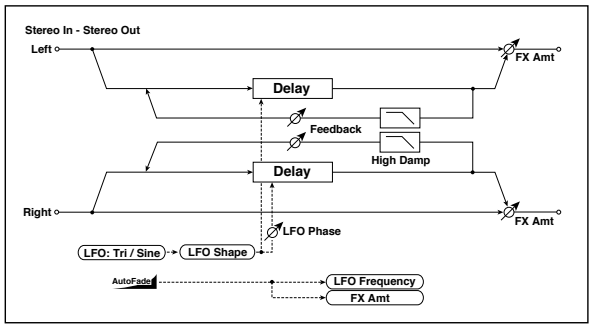
AUTOFADE Src=Gate1, LFO Frequency Mod=AUTOFADE, LFO Frequency [Hz]=1.0, Amt=3.0

MIDI The effect is off when a value for the dynamic modulation source specified for the “AUTOFADE Src” parameter is smaller than 64, and the effect is on when the value is 64 or higher. The AutoFade function is triggered when the value changes from 63 or smaller to 64 or higher.



47: St. Auto Fade Mod. (Stereo Auto Fade Modulatiom)

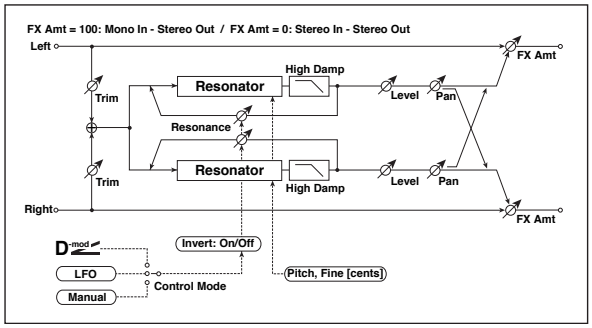
This stereo chorus/flanger effect enables you to control the LFO speed and effect balance using auto fade, and you can spread the sound by offsetting the phase of the left and right LFOs from each other.



a	AUTOFADE Src	Off...Tempo	Selects the modulation source that starts AutoFade	
	Fade-In Delay [msec]	00...2000	Sets the fade-in delay time	
	Rate	1...100	Sets the rate of fade-in	
b	LFO Frequency Mod	D-mod, AUTOFADE	Switches between D-mod and AUTOFADE for the LFO frequency modulation	
	Wet/Dry Mod	D-mod, AUTOFADE	Switches between D-mod and AUTOFADE for the effect balance modulation	
c	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
d	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
e	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
f	L Delay Time [msec]	0.0...500.0	Sets the left channel delay time	
	R Delay Time [msec]	0.0...500.0	Sets the right channel delay time	
g	Depth	0...200	Sets the depth of LFO modulation	
h	Feedback	–100...+100	Sets the feedback amount	
	High Damp [%]	0...100	Sets the feedback damping amount in the high range	
i	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

48: 2Voice Resonator

This effect resonates the input signal at a specified pitch. You can set the pitch, output level, and pan settings for two resonators individually. You can control the resonance intensity via an LFO.



a	Control Mode	Manual, LFO, D-mod	Switches the controls of resonance intensity	
	LFO/D-mod Invert	Off, On	Reverses the Voice 1 and 2 control when LFO/D-mod is selected	
b	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	D-mod Src	Off...Tempo	Selects the modulation source that controls resonance intensity	
c	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
d	Mod. Depth	–100...+100	Sets the amount of resonance intensity control via LFO/D-mod	
	Trim	0...100	Sets the input level at the resonator	
e	Voice1: Pitch	C0...B8	Sets the voice1 Pitch for resonance	
	Fine [cents]	–50...+50	Fine-adjusts the voice 1 pitch for resonance	
	Level	0...100	Sets the Voice1 output level	
f	Voice1: Resonance	–100...+100	Sets the intensity of resonance when Control Mode = Manual	
	High Damp [%]	0...100	Sets the damping amount of resonant sound in the high range	
	Pan	L6...L1, C, R1...R6	Sets the Voice1 stereo image	
g	Voice2: Pitch	C0...B8	Sets the voice 2 Pitch for resonance	
	Fine [cents]	–50...+50	Fine-adjusts the voice 2 pitch for resonance	
	Level	0...100	Sets the Voice2 output level	
h	Voice2: Resonance	–100...+100	Sets the intensity of resonance when Control Mode = Manual	
	High Damp [%]	0...100	Sets the damping amount of resonant sound in the high range	
	Pan	L6...L1, C, R1...R6	Sets the Voice2 stereo image	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Control Mode
f: Voice 1: Resonance
h: Voice 2: Resonance

This parameter determines the resonance intensity.

When "Control Mode" = Manual, the "Resonance" parameter sets the intensity of resonance. If the "Resonance" parameter has a negative value, harmonics will be changed, and resonance will occur at a pitch one octave lower.

When "Control Mode" = LFO, the intensity of resonance varies according to the LFO. The LFO sways between positive and negative values, causing resonance to occur between specified pitches an octave apart in turn.

When "Control Mode" = D-mod, the resonance is controlled by the dynamic modulation source. If JS X or Ribbon is assigned as the modulation source, the pitch an octave higher and lower can be controlled, similar to when LFO is selected for Control Mode.

a: LFO/D-mod Invert

When "Control Mode" = LFO or D-mod, the controlled phase of either Voice 1 or 2 will be reversed. When the resonance pitch is set for Voice 1 (Resonance has a positive value), Voice 2 will resonate at a pitch an octave below (Resonance has a negative value).

f: Voice 1: Pitch
f: Fine [cents]
h: Voice 2: Pitch
h: Fine [cents]

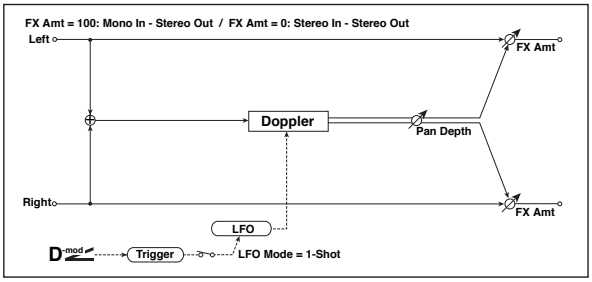
The Pitch parameter specifies the pitch of resonance by note name. The "Fine" parameter allows for fine adjustment in steps of cents.

g: High Damp [%]
i: High Damp [%]

This sets the amount of damping amount for the high frequencies of the resonant sound. Lower values create a metallic sound with a higher range of harmonics.

49: Doppler

This effect simulates the "Doppler effect" of a moving sound with a changing pitch, similar to the siren of an passing ambulance. Mixing the effect sound with the dry sound will create a unique chorus effect.



a	LFO Mode	Loop, 1-Shot	Switches LFO operation mode	
	Src	Off...Tempo	Selects the modulation source of LFO reset	
b	LFO Sync	Off, On	Switches between LFO reset on and off when LFO Mode is set to Loop	
c	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
e	Pitch Depth	0...100	Sets the pitch variation of the moving sound	
	Src	Off...Tempo	Selects the modulation source of pitch variation	
	Amt	–100...+100	Sets the modulation amount of pitch variation	
f	Pan Depth	–100...+100	Sets the panning of the moving sound	
	Src	Off...Tempo	Selects the modulation source of panning	
	Amt	–100...+100	Sets the modulation amount of panning	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: LFO Mode
a: Src
b: LFO Sync

The "LFO Mode" parameter switches LFO operation mode. When Loop is selected, the Doppler effect will be created repeatedly. If "LFO Sync" is set to On, the LFO will be reset when the modulation source specified with the "Src" parameter is turned on.

When "LFO Mode" is set to 1-Shot, the Doppler effect is created only once when the modulation source specified in the "Src" field is turned on. At this time if you do not set the "Src" parameter, the Doppler effect will not be created, and no effect sound will be output.

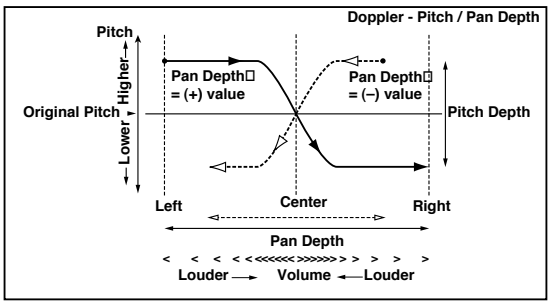
MIDI The effect is off when a value for the modulation source specified for the "Src" parameter is smaller than 64, and the effect is on when the value is 64 or higher. The Doppler effect is triggered when the value changes from 63 or smaller to 64 or higher.

e: Pitch Depth

With the Doppler effect, the pitch is raised when the sound approaches, and the pitch is lowered when the sound goes away. This parameter sets this pitch variation.

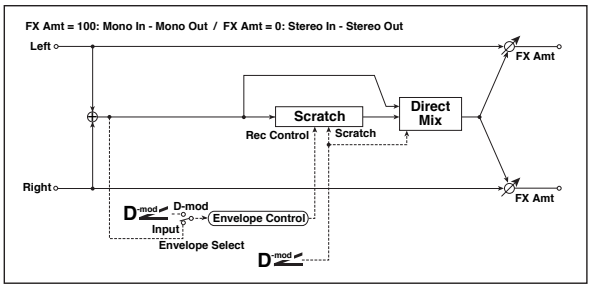
f: Pan Depth

This parameter sets the width of the stereo image of the effect sound. With larger values, the sound seems to come and go from much further away. With positive values, the sound moves from left to right; with negative values, the sound moves from right to left.



50: Scratch

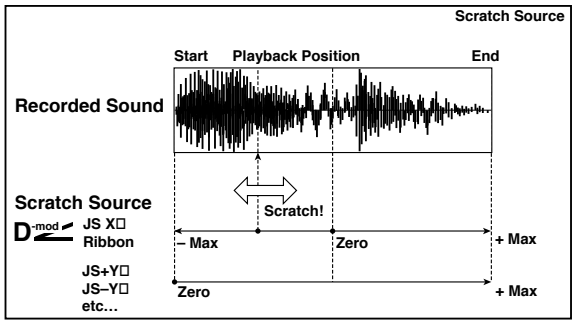
This effect is applied by recording the input signal and moving the modulation source. It simulates the sound of scratches you can make using a turntable.



a	Scratch Source	Off...Tempo	Selects the modulation source for simulation control	
b	Response	0...100	Sets the speed of the response to the Scratch Src	
c	Envelope Select	D-mod, Input	Selects whether the start and end of recording is controlled via the modulation source or the input signal level	
	Src	Off...Tempo	Selects the modulation source that controls recording when Envelope Select is set to D-mod	
d	Threshold	0...100	Sets the recording start level when Envelope Select is set to Input	
e	Response	0...100	Sets the speed of the response to the end of recording	
f	Direct Mix	Always On, Always Off, Cross Fade	Selects how a dry sound is mixed	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Scratch Source
b: Response

The Scratch Source parameter enables you to select the modulation source that controls simulation. The value of the modulation source corresponds to the playback position. The Response parameter enables you to set the speed of the response to the modulation source.



c: Envelope Select
c: Src
d: Threshold

When "Envelope Select" is set to D-mod, the input signal will be recorded only when the modulation source value is 64 or higher.

When "Envelope Select" is set to Input, the input signal will be recorded only when its level is over the Threshold value.

The maximum recording time is 2,730msec. If this is exceeded, the recorded data will start being erased from the top.

e: Response

This parameter enables you to set the speed of the response to the end of recording. Set a smaller value when you are recording a phrase or rhythm pattern, and set a higher value if you are recording only one note.

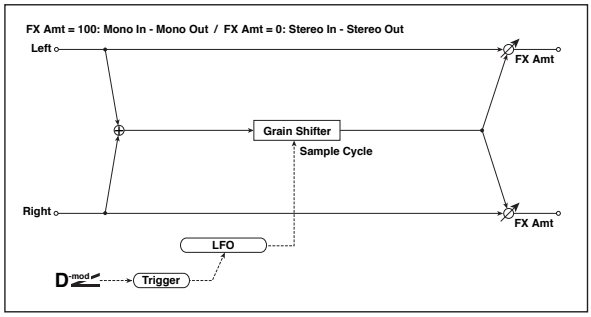
f: Direct Mix

With Always On, a dry sound is usually output. With Always Off, dry sounds are not output. With Cross Fade, a dry sound is usually output, and it is muted only when scratching.

Set Wet/Dry to 100 to use this parameter effectively.

51: Grain Shifter

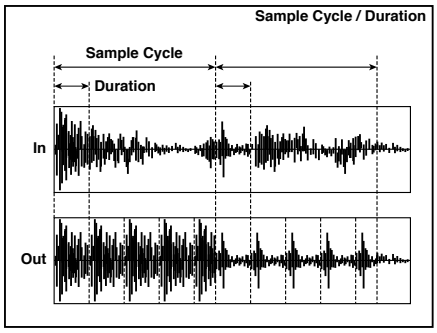
This effect cuts extremely short samples ("grains") from the input signal waveform and plays them repeatedly, giving a mechanical character to the sound.



a	Duration	0...100	Sets the duration of the grain	
	Src	Off...Tempo	Selects the source that will modulate the duration of the grain	
	Amt	–100...+100	Sets the amount by which the grain duration will be modulated	
b	LFO Sync Src	Off...Tempo	Selects the modulation source that will reset the LFO	
c	LFO Sample Cycle [Hz]	0.02...20.00	Sets the frequency at which the grain will be switched	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
e	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

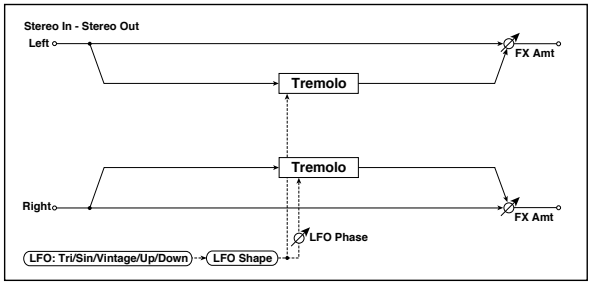
a: Duration
c: LFO Sample Cycle [Hz]

Duration sets the length of the sampled grain, and the LFO **Sample Cycle** controls how often a new grain is sampled. In between Sample Cycles, the current grain is repeated continuously.



52: Stereo Tremolo

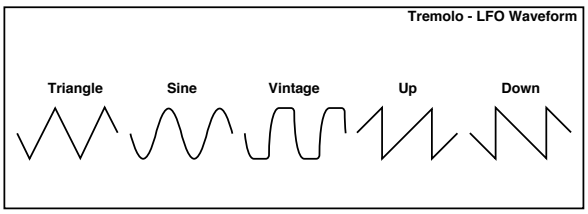
This effect modulates the volume level of the input signal. The effect is stereo, and offsetting the LFO of the left and right phases from each other produces a tremolo effect between left and right.



a	LFO Waveform	Triangle, Sine, Vintage, Up, Down	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
b	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
c	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
e	Depth	0...100	Sets the depth of LFO modulation	
	Src	Off...Tempo	Selects the modulation source of the depth of modulation	
	Amt	–100...+100	Sets the modulation amount of the depth of modulation	
f	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: LFO Waveform

This parameter sets the basic shape of the LFO. The **Vintage** waveform models classic guitar-amp tremolo.

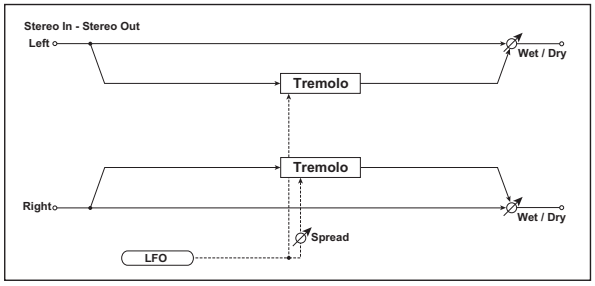


b: LFO Phase [degree]

This parameter determines the difference between the left and right LFO phases. A higher value will simulate the auto-pan effect in which the sound is panned between left and right.

53: Classic Tremolo

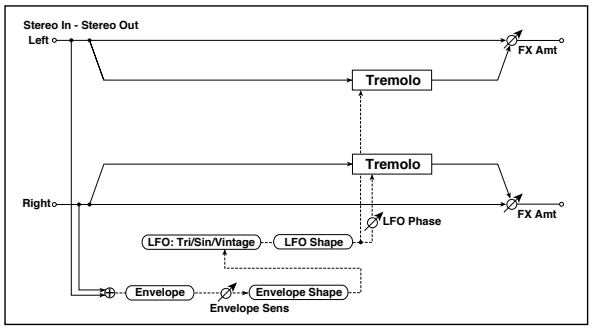
This models the highly-acclaimed tremolo circuit that was built into a US-made combo amp. The Spread setting lets you create a pan effect that wavers between left and right.



Speed [Hz]	0.10...10.0	Sets the tremolo speed	
Depth	0...100	Select the tremolo depth	
Spread	0...100	Sets the width of the stereo image of the effect sound	
Level Adjust	1...100	Sets the output level	
Wet/Dry	–Wet... –1 : 99, Dry, 1 : 99...Wet	Balance between the wet and dry signal	D-mod
Source	Off...Tempo	Table , "Selects a modulation source for Wet/Dry," on page 107	
Amount	–100...+100	Table , "Sets the modulation amount for Wet/Dry," on page 107	

54: St. Env. Tremolo (Stereo Envelope Tremolo)

This effect uses the input signal level to modulate a stereo tremolo (LFO volume modulation). For instance, you can create a tremolo effect that becomes deeper and faster as the input gets more quiet.

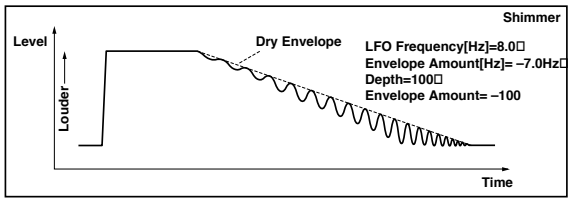


a	Envelope Sens	0...100	Sets the envelope's sensitivity to the input signal	
	Envelope Shape	–100...+100	Sets the envelope's curvature	
b	LFO Waveform	Triangle, Sine, Vintage	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
c	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
d	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Envelope Amount [Hz]	–20.00...+20.00	Sets the amount added to or subtracted from the Frequency when the envelope is at maximum	
e	Depth	0...100	Sets the initial amount of tremolo	
	Envelope Amount	–100...+100	Sets the amount added to or subtracted from the Depth when the envelope is at maximum	
f	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

d: LFO Frequency [Hz]
d: Envelope Amount [Hz]
e: Depth
e: Envelope Amount

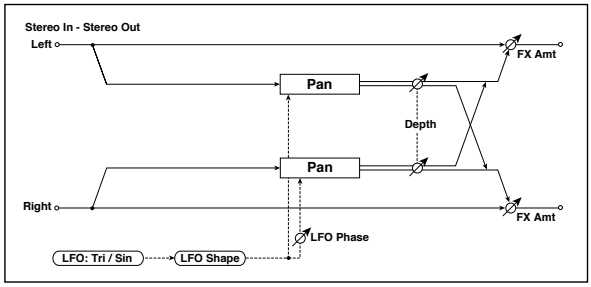
The graphic below shows an example of tremolo modulation with negative modulation of both **Depth** and **Frequency**. At the start of the note, the input is at maximum volume. This slows down the LFO **Frequency** to **1.0Hz**, but also modulates the **Depth** to **0**–so the tremolo doesn't have any effect.

As the input volume dies down, the **Frequency** speeds up; the **Depth** also increases, making the tremolo effect increasingly audible. When the input volume approaches silence, the **Depth** is at its maximum (**100**) and **Frequency** is at **8Hz**.



55: Stereo Auto Pan

This is a stereo-in, stereo-out auto-panner. The Phase and Shape parameters lets you create various panning effects, such as making the left and right inputs seem to chase each other around the stereo field.



a	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
b	LFO Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
c	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
e	Depth	0...100	Sets the depth of LFO modulation	
	Src	Off...Tempo	Selects the modulation source of the depth of modulation	
	Amt	–100...+100	Sets the modulation amount of the depth of modulation	
f	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

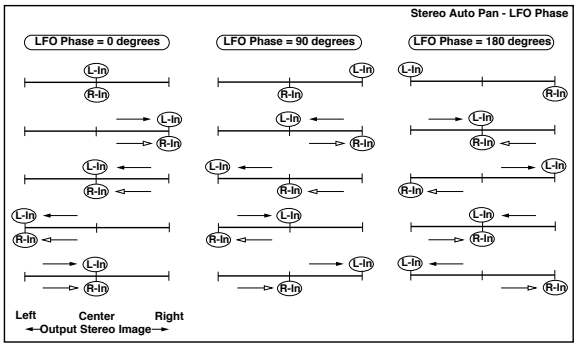
a: LFO Shape

You can change the panning curve by modifying the LFO’s **Shape**.

b: LFO Phase [degree]

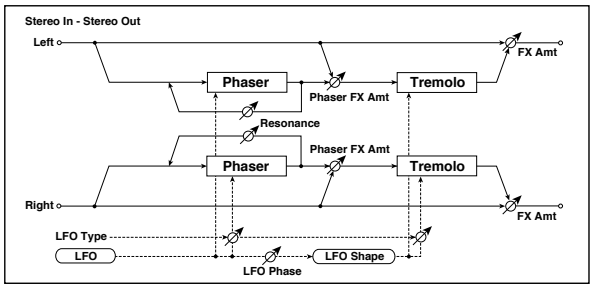
This determines the phase difference between the left and right LFOs. When you gradually change the value away from 0, the sounds from the left and right channels will seem to chase each other around. If you set the parameter to +180 or –180, the sounds from each channel will cross over each other.

You’ll only hear the effect of this parameter if the input is true stereo, with different signals in the left and right channels.



56: St. Phaser + Trml (Stereo Phaser + Tremolo)

This effect combines a stereo phaser and tremolo, with linked LFOs. Swelling phaser modulation and tremolo effects synchronize with each other, creating a soothing modulation effect particularly suitable for electric piano.



a	Type	Phs - Trml, ... Phs LR - Trml LR	Selects the type of the tremolo and phaser LFOs Phaser - Tremolo, Phaser - Tremolo Spin, Phaser - Tremolo LR, Phaser LR - Tremolo, Phaser LR - Tremolo Spin, Phaser LR - Tremolo LR	
	LFO Phase [degree]	–180...+180	Sets the phase difference between the tremolo and phaser LFOs	
b	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the LFO speed modulation amount	
c	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
d	Phaser Manual	0...100	Sets the phaser frequency range	
	Resonance	–100...+100	Sets the phaser resonance amount	
e	Phaser Depth	0...100	Sets the phaser modulation depth	
	Src	Off...Tempo	Selects the modulation source for the phaser modulation depth	
	Amt	–100...+100	Sets the modulation amount for the phaser modulation depth	
f	Phaser Wet/ Dry	–Wet, –2 : 98...Dry... 2 : 98, Wet	Sets the balance between the phaser effect and dry sounds	
g	Tremolo Shape	–100...+100	Sets the degree of the tremolo LFO shaping	
h	Tremolo Depth	0...100	Sets the tremolo modulation depth	
	Src	Off...Tempo	Selects the modulation source for the tremolo modulation depth	
	Amt	–100...+100	Sets the modulation amount of the tremolo modulation depth	

i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Type
a: LFO Phase [degree]

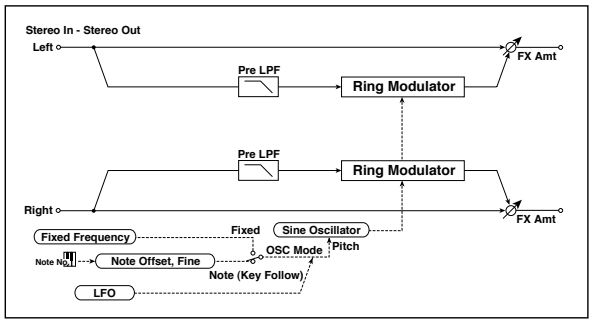
Select the type of phaser LFO and tremolo LFO for the "Type" parameter. How the effect sound moves or rotates depends on the type of LFO. Selecting "LFO Phase" enables you to offset the timing of the phaser peak and control a subtle movement and rotation of the sound.

f: Phaser Wet/Dry
i: Wet/Dry

PHASER Wet/Dry sets the balance between the phaser output and the dry sound. **OUTPUT Wet/Dry** sets the balance between the final phaser and tremolo output level and the dry sound.

57: St. Ring Modulator (Stereo Ring Modulator)

This effect creates a metallic sound by applying the oscillators to the input signal. Use the LFO or Dynamic Modulation to modulate the oscillator to create a radical modulation. Matching the oscillator frequency with a note number will produce a ring modulation effect in specific key ranges.



a	OSC Mode	Fixed, Note (Key Follow)	Switching between specifying the oscillator frequency and using a note number	
	Pre LPF	0...100	Sets the damping amount of the high range input to the ring modulator	
b	Fixed Frequency [Hz]	0...12.00k	Sets the oscillator frequency when OSC Mode is set to Fixed	
	Src	Off...Tempo	Selects the modulation source for the oscillator frequency when OSC Mode is set to Fixed	
	Amt	–12.00k... +12.00k	Sets the modulation amount of the oscillator frequency when OSC Mode is set to Fixed	
c	Note Offset	–48...+48	Sets the pitch difference from the original note when OSC Mode is set to Note (Key Follow)	
	Note Fine	–100...+100	Fine-adjusts the oscillator frequency	
d	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
e	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
f	LFO Depth	0...100	Sets the depth of LFO modulation for the oscillator frequency	
	Src	Off...Tempo	Selects the modulation source of the depth of modulation	
	Amt	–100...+100	Sets the modulation amount of the depth of modulation	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: OSC Mode

This parameter determines whether or not the oscillator frequency follows the note number.

a: Pre LPF

This parameter enables you to set the damping amount of the high range sound input to the ring modulator. If the input sound contains lots of harmonics, the effect may sound dirty. In this case, cut a certain amount of high range.

b: Fixed Frequency [Hz]

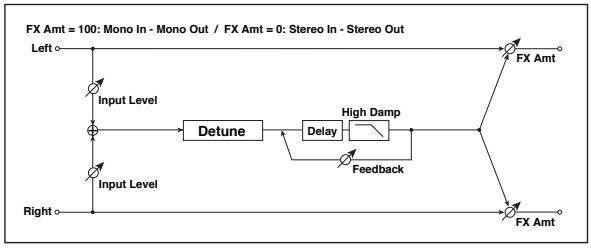
This parameter sets the oscillator frequency when "OSC Mode" is set to Fixed.

c: Note Offset
c: Note Fine

These parameters for the oscillator are used when "OSC Mode" is set to Note (Key Follow). The "Note Offset" sets the pitch difference from the original note in semitone steps. The "Note Fine" parameter fine-adjusts the pitch in cent steps. Matching the oscillator frequency with the note number produces a ring modulation effect in the correct key.

58: Detune

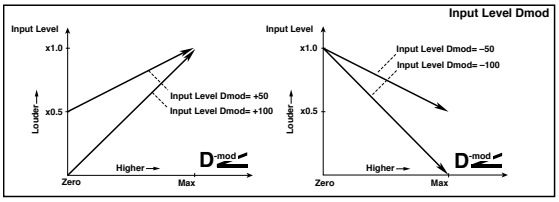
Using this effect, you can obtain a detune effect that offsets the pitch of the effect sound slightly from the pitch of the input signal. Compared to the chorus effect, a more natural sound thickness will be created.



a	Pitch Shift [cents]	–100...+100	Sets the pitch difference from the input signal	
	Src	Off...Tempo	Selects a modulation source for pitch shift	
	Amt	–100...+100	Sets the modulation amount for pitch shift	
b	Delay Time [msec]	0...1000	Sets the delay time	
c	Feedback	–100...+100	Sets the feedback amount	
	High Damp [%]	0...100	Sets the damping amount in the high range	
d	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
e	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

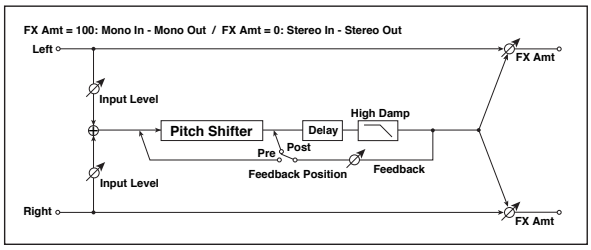
d: Input Level Dmod [%]
d: Src

This parameter sets the dynamic modulation of the input level.



59: Pitch Shifter

This effect changes the pitch of the input signal. You can select from three types: Fast (quick response), Medium, and Slow (preserves tonal quality). You can also create an effect in which the pitch is gradually raised (or dropped) using the delay with feedback.



a	Mode	Slow, Medium, Fast	Switches Pitch Shifter mode	
b	Pitch Shift [1/2tone]	–24...+24	Sets the pitch shift amount by steps of a semitone	
	Src	Off...Tempo	Selects the modulation source of pitch shift amount	
	Amt	–24...+24	Sets the modulation amount of pitch shift amount	
c	Fine [cents]	–100...+100	Sets the pitch shift amount by steps of a cent	
	Amt	–100...+100	Sets the modulation amount of pitch shift amount	
d	Delay Time [msec]	0...2000	Sets the delay time	
e	Feedback Position	Pre, Post	Switches the feedback connection	
f	Feedback	–100...+100	Sets the feedback amount	
	High Damp [%]	0...100	Sets the damping amount in the high range	
g	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Mode

This parameter switches the pitch shifter operating mode. With Slow, tonal quality will not be changed too much. With Fast, the effect becomes a Pitch Shifter that has a quick response, but may change the tone. Medium is in-between these two. If you do not need to set too much pitch shift amount, set this parameter to Slow. If you wish to change the pitch significantly, use Fast.

b: Pitch Shift [1/2tone]
b: Src
b: Amt
c: Fine [cents]
c: Amt

The amount of pitch shift will use the value of the **Pitch Shift** plus the **Fine** value. The amount of modulation will use the b: Amt value plus the c: Amt.

The same Modulation Source is used for both **Pitch Shift** and **Fine**.

e: Feedback Position
f: Feedback

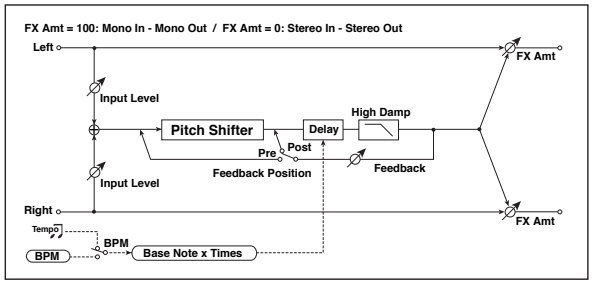
When **Feedback Position** is set to **Pre**, the pitch shifter output is again input to the pitch shifter. Therefore, if you specify a higher

value for the Feedback parameter, the pitch will be raised (or lowered) more and more each time feedback is repeated.

If **Feedback Position** is set to **Post**, the feedback signal will not pass through the pitch shifter again. Even if you specify a higher value for the **Feedback** parameter, the pitch-shifted sound will be repeated at the same pitch.

60: Pitch Shifter BPM

This pitch shifter enables you to set the delay time to match the song tempo.



a	Mode	Slow, Medium, Fast	Switches Pitch Shifter mode	
b	Pitch Shift [1/2tone]	–24...+24	Sets the pitch shift amount in steps of a semitone	
	Src	Off...Tempo	Selects the modulation source of pitch shift amount	
	Amt	–24...+24	Sets the modulation amount of pitch shift amount	
c	Fine [cents]	–100...+100	Sets the pitch shift amount in steps of one cent	
	Amt	–100...+100	Sets the modulation amount of pitch shift amount	
d	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over?	---, OVER!	Displays an error message when the delay time exceeds the upper limit	
e	Delay Base Note	r...w	Selects the type of notes to specify the delay time	
	Times	x1...x32	Sets the number of notes to specify the delay time	
f	Feedback Position	Pre, Post	Switches the feedback connection	
g	Feedback	–100...+100	Sets the feedback amount	
	High Damp [%]	0...100	Sets the damping amount in the high range	
h	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

d: BPM
e: Delay Base Note
e: Times

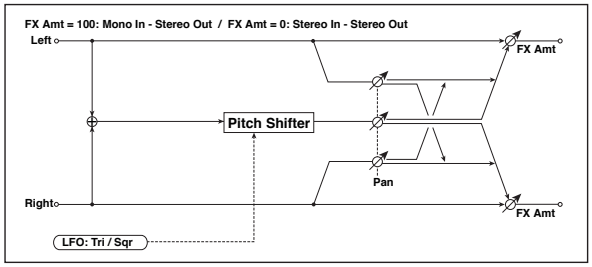
The delay time is the duration of "Times" number of "Delay Base Note" note values at the "BPM" tempo (or if "BPM" is set to MIDI, the tempo determined by MIDI Clock).

d: Time Over?

You can set the delay time up to 5,290msec. If the delay time exceeds this limit, the error message "OVER!" appears on the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

61: Pitch Shift Mod. (Pitch Shift Modulation)

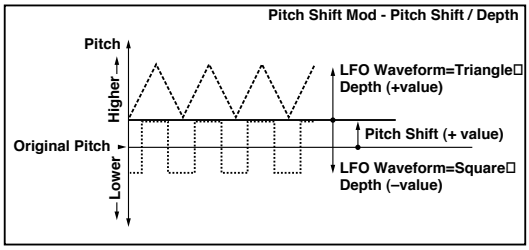
This effect modulates the detuned pitch shift amount using an LFO, adding a clear spread and width to the sound by panning the effect sound and dry sound to the left and right. This is especially effective when the effect sound and dry sound output from stereo speakers are mixed.



a	Pitch Shift [cents]	–100...+100	Sets the pitch difference from the input signal	
b	LFO Waveform	Triangle, Square	Selects the LFO Waveform	
c	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Src	Off...Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00... +20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
e	Depth	–100...+100	Sets the LFO modulation depth for pitch shift amount	
	Src	Off...Tempo	Selects the modulation source of the depth of modulation	
	Amt	–100...+100	Sets the modulation amount of the depth of modulation	
f	Pan	L, 1 : 99...99 : 1, R	Sets the panning effect sound and dry sound separately	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Pitch Shift [cents]
e: Depth

These parameters set the amount of pitch shift and amount of modulation by means of the LFO.

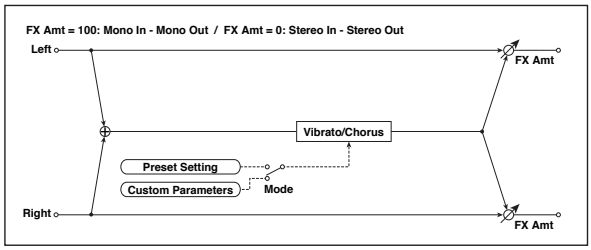


g: Pan
h: Wet/Dry

The Pan parameter pans the effect sound and dry sound to the left and right. With L, the effect sound is panned left, and the dry sound is panned right. With a Wet/Dry = Wet setting, the effect and dry sound will be output in a proportion of 1:1.

62: Organ Vib/Chorus (Organ Vibrato/Chorus)

This effect simulates the chorus and vibrato circuitry of a vintage organ. The modulation speed and depth can be customized.



a	Input Trim	0...100	Sets the input level	
b	Control Mode	Preset, Custom	Selects either preset or custom settings	
c	Preset Type	V1, C1, V2, C2, V3, C3	Selects the effect type when Mode=Preset V1/V2/V3 are variations of vibrato, and C1/C2/C3 are variations of chorus	
	Src	Off...Tempo	Selects the modulation source that will change the effect type	
	Amt	–5...+5	Sets the modulation amount for changing the effect type	
d	Custom Mix	Vibrato, 1:99...99:1, Chorus	Sets the mix level of the direct sound when Mode=Preset	
	Src	Off...Tempo	Selects the modulation source that will control the mix level of the direct sound	
	Amt	–100...+100	Sets the modulation amount for controlling the mix level of the direct sound	
e	Custom Depth	0...100	Sets the vibrato depth	
	Src	Off...Tempo	Selects the modulation source that will control vibrato depth	
	Amt	–100...+100	Sets the modulation amount for controlling the vibrato depth	
f	Custom Speed [Hz]	0.02...20.00	Sets the vibrato speed	
	Src	Off...Tempo	Selects the modulation source for controlling the vibrato speed	
	Amt	–20.00... +20.00	Sets the modulation amount for controlling the vibrato speed	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

b: Control Mode
c: Preset Type
d: Custom Mix
e: Custom Depth
f: Custom Speed [Hz]

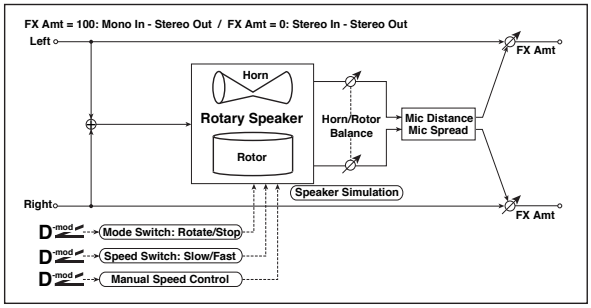
If Control Mode=Preset, you can use c: Preset Type to select the effect. In this case, the Custom Mix/Depth/Speed settings are ignored. If Control Mode=Custom, the Custom Mix/Depth/Speed settings are valid, and the c: Preset Type setting is ignored.

c: Amt

If Preset Type=V1 and Src=JS+Y, you can set this to +5 and move JS +Y to control the effect in the order of V1 C1 V2 C2 V3 C3.

63: Rotary Speaker

This effect simulates a rotary speaker, and obtains a more realistic sound by simulating the rotor in the low range and the horn in the high range separately. The effect also simulates the stereo microphone settings.



a	Mode Switch	Rotate, Stop	Switches between speaker rotation and stop	
	Src	Off...Tempo	Selects a modulation source for Rotate/Stop	
	Mode	Toggle, Moment	Sets the switch mode for Rotate/ Stop modulation	
b	Speed Switch	Slow, Fast	Switches the speaker rotation speed between slow and fast	
	Src	Off...Tempo	Selects a modulation source for Slow/Fast	
	Mode	Toggle, Moment	Sets the switch mode for Slow/Fast modulation	
c	Manual Speed Ctrl	Off...Tempo	Sets a modulation source for direct control of rotation speed	
d	Hore Acceleration	0...100	How quickly the horn rotation speed in the high range is switched	
	Hore Ratio	Stop, 0.50...2.00	Adjusts the (high-range side) horn rotation speed. Standard value is 1.00. Selecting “Stop” will stop the rotation	
e	Rotor Acceleration	0...100	Determines how quickly the rotor rotation speed in the low range is switched	
	Rotor Ratio	Stop, 0.50...2.00	Adjusts the (low-frequency) rotor speed. Standard value is 1.00. Selecting “Stop” will stop the rotation	
f	Horn/Rotor Balance	Rotor, 1...99, Horn	Sets the level balance between the high-frequency horn and low-frequency rotor	
g	Mic Distance	0...100	Sets the distance between the microphone and rotary speaker	
	Mic Spread	0...100	Sets the angle of left and right microphones	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Mode

This parameter sets how the modulation source switches between rotation and stop.

When **Mode** = **Toggle**, the speaker rotates or stops alternately each time you press the pedal or move the joystick. Via MIDI, rotation will switch between start and stop each time the modulation amount exceeds 64.

When **Mode** = **Moment**, the speaker rotates by default, and stops only when you press the pedal or move the joystick. Via MIDI, modulation values above 64 make the speaker rotate, and values below 64 make it stop.

b: Speed Switch

This parameter controls how the rotation speed (slow and fast) is switched via the modulation source.

When **Mode** = **Toggle**, the speed will switch between slow and fast each time you press the pedal or move the joystick. Via MIDI, the speed will switch each time the modulation amount exceeds 64.

When **Mode** = **Moment**, the speed is usually slow. It becomes fast only when you press the pedal or move the joystick. Via MIDI, modulation values above 64 set the speed to **Fast**, and values below 64 set it to **Slow**.

c: Manual Speed Ctrl

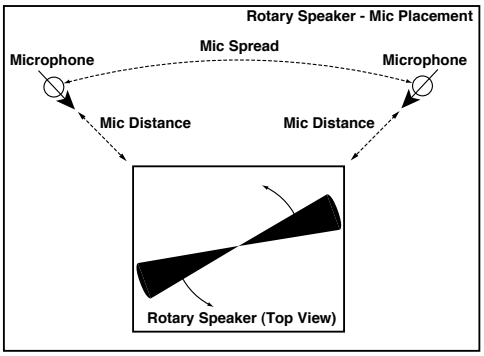
If you wish to control the rotation speed manually, instead of switching between Slow and Fast, select a modulation source in the **Manual Speed Ctrl** parameter. If you don't want to use manual control, set this to **Off**.

d: Horn Acceleration
e: Rotor Acceleration

On a real rotary speaker, the rotation speed accelerates or decelerates gradually after you switch the speed. The **Horn** and **Rotor Acceleration** parameters set the transition times between fast and slow speeds.

g: Mic Distance
g: Mic Spread

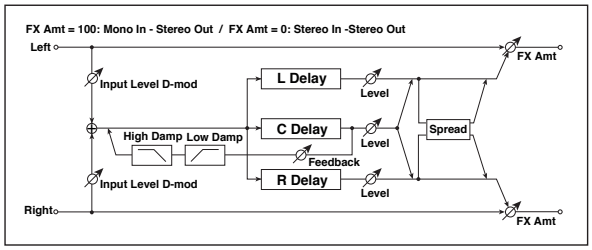
This is a simulation of stereo microphone settings.



Delay

64: L/C/R Delay

This multitap delay outputs three Tap signals to the left, right, and center respectively. You can also adjust the left and right spread of the delay sound.



a	L Delay Time [msec]	0...2730	Sets the delay time of TapL	
	Level	0...50	Sets the output level of TapL	
b	C Delay Time [msec]	0...2730	Sets the delay time of TapC	
	Level	0...50	Sets the output level of TapC	
c	R Delay Time [msec]	0...2730	Sets the delay time of TapR	
	Level	0...50	Sets the output level of TapR	
d	Feedback (C Delay)	–100...+100	Sets the feedback amount of TapC	
	Src	Off...Tempo	Selects the modulation source of the TapC feedback amount	
	Amt	–100...+100	Sets the modulation amount of the TapC feedback amount	
e	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
f	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
g	Spread	0...50	Sets the width of the stereo image of the effect sound	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

e: High Damp [%]
e: Low Damp [%]

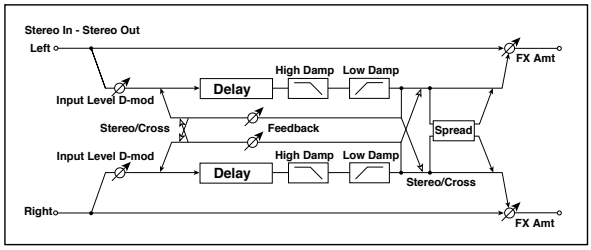
These parameters set the damping amount of high range and low range. The tone of the delayed sound becomes darker and lighter as it feeds back.

g: Spread

This parameter sets the pan width of the effect sound. The stereo image is widest with a value of 50, and the effect sound of both channels is output from the center with a value of 0.

65: Stereo/CrossDelay

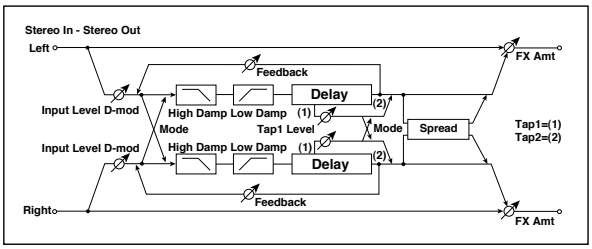
This is a stereo delay, and can by used as a cross-feedback delay effect in which the delay sounds cross over between the left and right by changing the feedback routing.



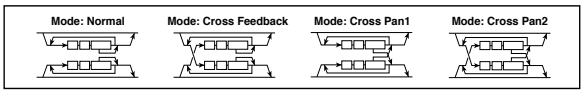
a	Stereo/Cross	Stereo, Cross	Switches between stereo delay and cross-feedback delay	
b	L Delay Time [msec]	0.0...1360.0	Sets the delay time for the left channel	
c	R Delay Time [msec]	0.0...1360.0	Sets the delay time for the right channel	
d	L Feedback	–100...+100	Sets the feedback amount for the left channel	
	Src	Off...Tempo	Selects the modulation source of feedback amount	
	Amt L	–100...+100	Sets the modulation amount of the left channel feedback	
e	R Feedback	–100...+100	Sets the feedback amount for the right channel	
	Amt R	–100...+100	Sets the modulation amount of the right channel feedback	
f	High Damp [%]	0...100	Sets the damping amount in the high range	
g	Low Damp [%]	0...100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
i	Spread	–50...+50	Sets the width of the stereo image of the effect sound	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

66: St. Multitap Delay (Stereo Multitap Delay)

The left and right Multitap Delays have two taps respectively. Changing the routing of feedback and tap output allows you to create various patterns of complex effect sounds.



a	Mode	Normal, Cross Feedback, Cross Pan1, Cross Pan2	Switches the left and right delay routing	
b	Tap1 Time [msec]	0.0...1360.0	Sets the Tap1 delay time	
c	Tap2 Time [msec]	0.0...1360.0	Sets the Tap2 delay time	
d	Tap1 Level	0...100	Sets the Tap1 output level	
e	Feedback (Tap2)	–100...+100	Sets the Tap2 feedback amount	
	Src	Off...Tempo	Selects the modulation source of the Tap2 feedback amount	
	Amt	–100...+100	Sets the modulation amount of the Tap2 feedback amount	
f	High Damp [%]	0...100	Sets the damping amount in the high range	
g	Low Damp [%]	0...100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
i	Spread	–100...+100	Sets the width of the stereo image of the effect sound	
	Src	Off...Tempo	Selects the modulation source of the effect sound’s stereo image width	
	Amt	–100...+100	Sets the modulation amount of the effect sound’s stereo image width	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	



a: Mode

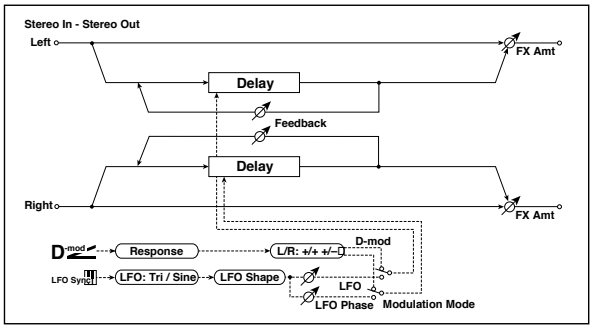
You can change how the left and right delay signals are panned by modifying the routing of the left and right delay as shown in the figure above. You need to input different sounds to each channel in order for this parameter to be effective.

d: Tap1 Level

This parameter sets the output level of Tap1. Setting a different level from Tap2 will add a unique touch to a monotonous delay and feedback.

67: St. Mod Delay (Stereo Modulation Delay)

This stereo delay uses an LFO to sweep the delay time. The pitch also varies, creating a delay sound which swells and shimmers. You can also control the delay time using a modulation source.



a	Modulation Mode	LFO, D-mod	Switches between LFO modulation control and modulation source control	
b	D-mod Modulation	L/R:+/+, L/R:+/–	Reversed L/R control by modulation source	
	Src	Off...Tempo	Selects the modulation source that controls delay time	
	Response	0...30	Sets the rate of response to the modulation source	
c	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
d	LFO Sync	Off, On	Switches LFO reset off/on	
	Src	Off...Tempo	Selects the modulation source that resets the LFO	
e	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
f	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00...300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
g	L LFO Phase [deg]	–180...+180	Sets the phase obtained when the left LFO is reset	
	L Depth	0...200	Sets the depth of the left LFO modulation	
h	R LFO Phase [deg]	–180...+180	Sets the phase obtained when the right LFO is reset	
	R Depth	0...200	Sets the depth of the right LFO modulation	
i	L Delay Time [msec]	0.0...1000.0	Sets the delay time for the left channel	
	L Feedback	–100...+100	Sets the feedback amount of left delay	
j	R Delay Time [msec]	0.0...1000.0	Sets the delay time for the right channel	
	R Feedback	–100...+100	Sets the feedback amount of right delay	
k	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

b: D-mod Modulation

When the modulation source is used for control, this parameter reverses the left and right modulation direction.

d: LFO Sync
d: Src
g: L LFO Phase [deg]
h: R LFO Phase [deg]

If “LFO Sync” is On, the LFO will be reset by the modulation source that is received.

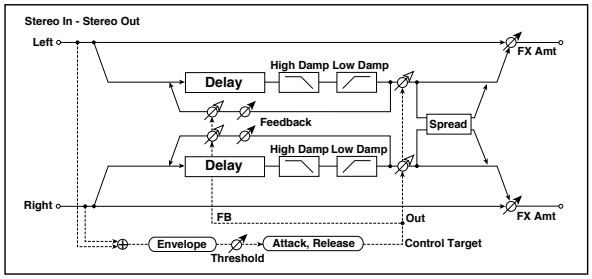
The “Src” parameter sets the modulation source that resets the LFO. For example, you can assign Gate as a modulation source so that the sweep always starts from the specified point.

“L LFO Phase” and “R LFO Phase” set the phase obtained when the left and right LFOs are reset. In this way, you can create changes in pitch sweep for the left and right channels individually.

MIDI The effect is off when a value of the modulation source specified in the “Src” parameter is 63 or smaller, and the effect is on when the value is 64 or higher. The LFO is triggered and reset to the “L LFO Phase” and “R LFO Phase” settings when the value changes from 63 or smaller to 64 or higher.

68: St. Dynamic Delay (Stereo Dynamic Delay)

This stereo delay controls the level of delay according to the input signal level. You can use this as a ducking delay that applies delay to the sound only when you play keys at a high velocity or only when the volume level is low.



a	Control Target	None, Out, FB	Selects from no control, output, and feedback	
	Polarity	+, –	Reverses level control	
b	Threshold	0...100	Sets the level to which the effect is applied	
	Offset	0...100	Sets the offset of level control	
c	Attack	1...100	Sets the attack time of level control	
d	Release	1...100	Sets the release time of level control	
e	L Delay Time [msec]	0.0...1360.0	Sets the delay time for the left channel	
f	R Delay Time [msec]	0.0...1360.0	Sets the delay time for the right channel	
g	Feedback	–100...+100	Sets the feedback amount	
h	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
i	Spread	–100...+100	Sets the width of the stereo image of the effect sound	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Control Target

This parameter selects no level control, delay output control (effect balance), or feedback amount control.

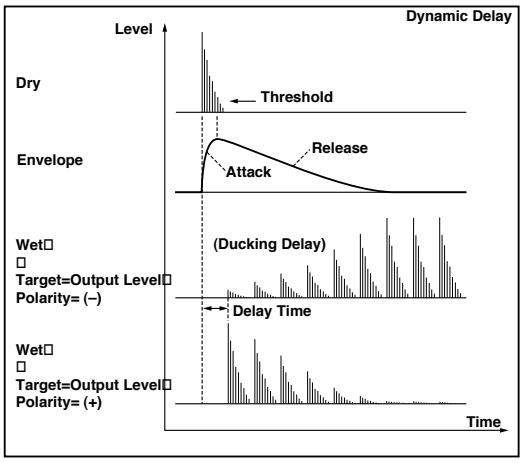
a: Polarity
b: Threshold
b: Offset
c: Attack
d: Release

The “Offset” parameter specifies the value for the “Control Target” parameter (that is set to None), expressed as the ratio relative to the parameter value (the “Wet/Dry” value with “Control Target”=Output level, or the “Feedback” value with “Control Target”=Feedback).

When “Polarity” is positive, the “Control Target” value is obtained by multiplying the parameter value by the “Offset” value (if the input level is below the threshold), or equals the parameter value if the input level exceeds the threshold.

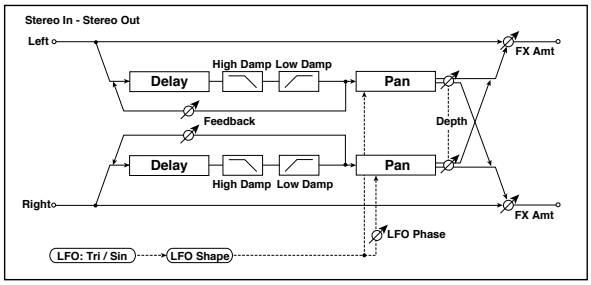
When “Polarity” is negative, Control Target value equals the parameter value if the input level is below the threshold, or is obtained by multiplying the parameter value by the “Offset” value if the level exceeds the threshold.

The “Attack” and “Release” parameters specify attack time and release time of delay level control.



69: St. AutoPanningDly (Stereo Auto Panning Delay)

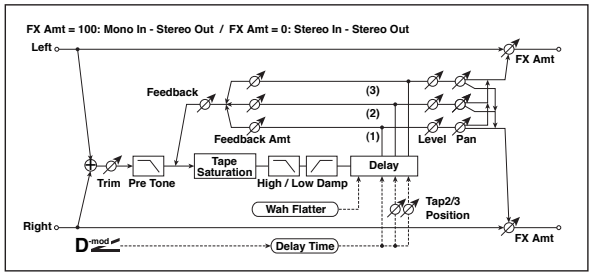
This stereo delay effect pans the delay sound left and right using the LFO.



a	L Delay Time [msec]	0.0...1360.0	Sets the delay time for the left channel	
	L Feedback	–100...+100	Sets the feedback amount for the left channel	
b	R Delay Time [msec]	0.0...1360.0	Sets the delay time for the right channel	
	R Feedback	–100...+100	Sets the feedback amount for the right channel	
c	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
d	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
e	Phase [degree]	–180...+180	Sets the LFO phase difference between the left and right	
f	Panning Freq [Hz]	0.02...20.00	Sets the panning speed	
g	MIDI Sync	Off, On	Switches between using the frequency of the panning speed and using the tempo and notes	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes to specify the delay time for the panning speed	
	Times	x1...x32	Sets the number of notes to specify the delay time for the panning speed	
h	Panning Depth	0...100	Sets the panning width	
	Src	Off...Tempo	Selects the modulation source for the panning width	
	Amt	–100...+100	Set the modulation amount of the panning width	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

70: Tape Echo

This effect simulates a tape echo unit with three playback heads. The distortion and tonal change typical of magnetic tape are also reproduced.



a	Delay (Tap1) [msec]	0...2700	Sets the delay time (tap1)	
	Src	Off...Tempo	Selects the modulation source of the delay time	
	Amt	–2700...+2700	Sets the modulation amount of delay time	
b	Tap2 Position [%]	0...100	Sets the position of Tap 2 relative to the Tap 1 delay time the depth of pitch variation	
c	Tap3 Position [%]	0...100	Sets the position of Tap 3 relative to the Tap 1 delay time the depth of pitch variation	
d	Tap1 Level	0...100	Sets the Tap1 output level	
	Pan	L, 1...99, R	Sets the stereo image of tap1	
	FB Amt	–100...+100	Sets the Tap1 feedback amount	
e	Tap2 Level	0...100	Sets the Tap2 output level	
	Pan	L, 1...99, R	Sets the stereo image of tap2	
	FB Amt	–100...+100	Sets the Tap2 feedback amount	
f	Tap3 Level	0...100	Sets the Tap3 output level	
	Pan	L, 1...99, R	Sets the stereo image of tap3	
	FB Amt	–100...+100	Sets the Tap3 feedback amount	
g	Feedback	0...100	Sets the amount of feedback for Taps 1, 2, and 3	
	Src	Off...Tempo	Selects the modulation source of feedback amount	
	Amt	–100...+100	Sets the feedback amount	
h	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
i	Saturation	0...100	Sets the distortion amount	
j	Input Trim	0...100	Sets the input gain	
	Pre Tone	0...100	Sets the tone of the input	
k	Wow Flutter [Hz]	0.02...1.00	Sets the frequency at which pitch variation will occur	
	Wow Flutter depth	0...100	Sets the depth of pitch variation	
l	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Delay (Tap1) [msec]
a: Src
a: Amt
b: Tap2 Position [%]
b: Tap3 Position [%]

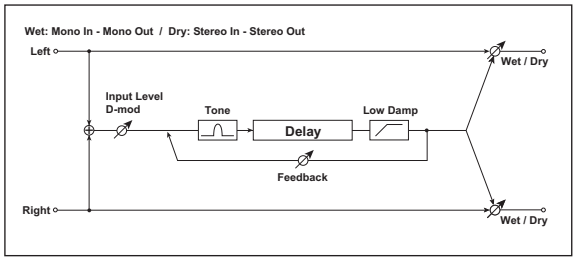
The delay time for Tap 2 and 3 is specified as a proportion (%) relative to "Delay (Tap1)." Even if you use dynamic modulation to control "Delay (Tap1)," Tap 2 and 3 will change at the same proportion.

d: FB Amt
e: FB Amt
f: FB Amt
g: Feedback

The feedback output from Tap 1, 2, and 3 is mixed according to the "FB Amt," and then the final amount of feedback is specified by "Feedback."

71: Classic Tape Echo

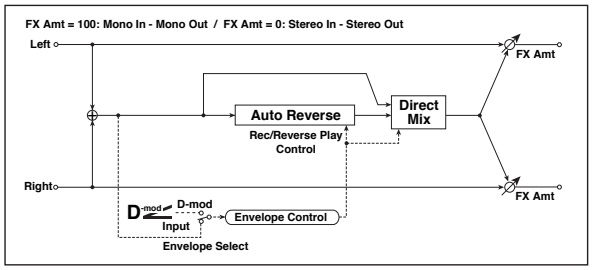
This models a famous analog tape echo unit. On the original device, "echo" was created by a playback head, and the "delay time" was specified by adjusting the speed of the motor. The warmth and subtlety of the echoes it generated made this "lo-fi" unit a favorite with many pro musicians.



Time [ms]	0...539	Sets the delay time	
Feedback	0...100	Sets the amount of feedback	
Tone	1...100	Sets the tone of the delay sound	
Low Damp [%]	0...100	Sets the damping amount in the low range page 142	
Input Lvl Dmod [%]	–100...+100	Sets the modulation amount of the input level page 139	D-mod
Source	Off...Tempo	Selects the modulation source for the input levelpage 139	
Wet/Dry	Dry, 1 : 99... 99 : 1, Wet	Balance between the wet and dry signal	D-mod
Source	Off...Tempo	Table , "Selects a modulation source for Wet/Dry," on page 107	
Amount	–100...+100	Table , "Sets the modulation amount for Wet/Dry," on page 107	

72: Auto Reverse

This effect records the input signal and automatically plays it in reverse (the effect is similar to a tape reverse sound).



a	Rec Mode	Single, Multi	Sets the recording mode	
b	Reverse Time [msec]	20...2640	Sets the maximum duration of the reverse playback	
c	Envelope Select	D-mod, Input	Selects whether the start and end of recording is controlled via the modulation source or the input signal level	
	Src	Off...Tempo	Selects the modulation source that controls recording when Envelope Select is set to D-mod	
d	Threshold	0...100	Sets the recording start level when Envelope Select is set to Input	
e	Response	0...100	Sets the speed of the response to the end of recording	
f	Direct Mix	Always On, Always Off, Cross Fade	Selects how a dry sound is mixed	

g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Rec Mode

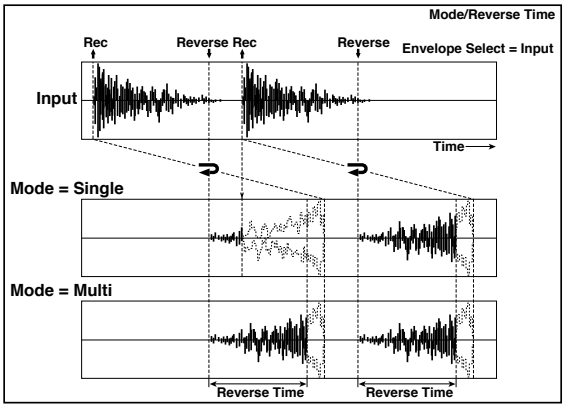
b: Reverse Time [msec]

When "Rec Mode" is set to Single, you can set up to 2,640msec for "Reverse Time." If recording starts during the reverse playback, the playback will be interrupted.

When "Rec Mode" is set to Multi, you can make another recording during the reverse playback. However, the maximum Reverse Time is limited to 1,320msec.

If you wish to record a phrase or rhythm pattern, set "Rec Mode" to Single. If you record only one note, set "Rec Mode" to Multi.

The "Reverse Time" parameter specifies the maximum duration of the reverse playback. The part in excess of this limit will not be played in reverse. If you wish to add short pieces of the reverse playback of single notes, make the "Reverse Time" shorter.



c: Envelope Select

c: Src

d: Threshold

These parameters select the source to control the start and end of recording.

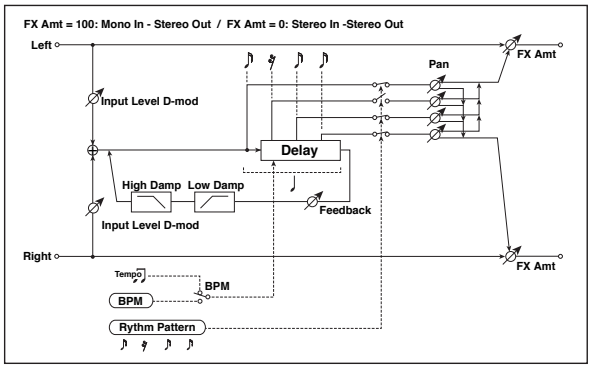
When "Envelope Select" is set to D-mod, the input signal will be recorded only when the value of the modulation source selected by the Src parameter is 64 or higher.

When "Envelope Select" is set to Input, the input signal will be recorded only when its level exceeds the Threshold level.

When recording is completed, reverse playback starts immediately.

73: Sequence BPM Dly (Sequence BPM Delay)

This four-tap delay enables you to select a tempo and rhythm pattern to set up each tap.



a	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
b	Rhythm Pattern	x...eee[3]	Selects a rhythm pattern	Sync
c	Tap1 Pan	L, 1...99, R	Sets the panning of Tap1	
	Tap2 Pan	L, 1...99, R	Sets the panning of Tap2	
	Tap3 Pan	L, 1...99, R	Sets the panning of Tap3	
	Tap4 Pan	L, 1...99, R	Sets the panning of Tap4	
d	Feedback	–100...+100	Sets the feedback amount	
	Src	Off...Tempo	Selects the modulation source of feedback amount	
	Amt	–100...+100	Sets the feedback amount	
e	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
f	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

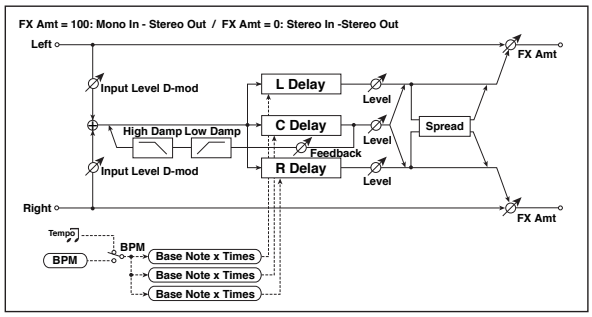
a: BPM

b: Rhythm Pattern

With the tempo specified by the "BPM" parameter (or the MIDI Clock tempo if "BPM" is set to MIDI), the length of one beat equals the feedback delay time, and the interval between taps becomes equal. Selecting a rhythm pattern will automatically turn the tap outputs on and off. When "BPM" is set to MIDI, the lower limit of the "BPM" is 44.

74: L/C/R BPM Delay

The L/C/R delay enables you to match the delay time with the song tempo. You can also synchronize the delay time with the arpeggiator or sequencer. If you program the tempo before performance, you can achieve a delay effect that synchronizes with the song in real-time. Delay time is set by notes.



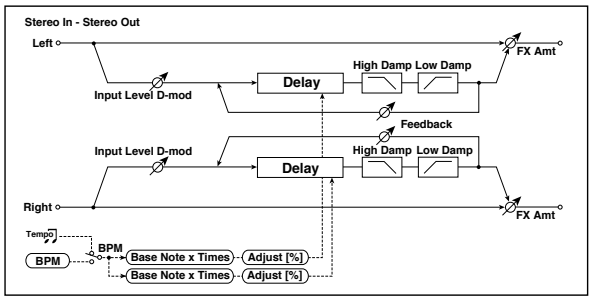
a	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over?	---, OVER!	Displays an error message when the delay time exceeds the upper limit	
b	L Delay Base Note	r...w	Selects the type of notes to specify the delay time for TapL	Sync
	Times	x1...x32	Sets the number of notes to specify the delay time for TapL	
	Level	0...50	Sets the output level of TapL	
c	C Delay Base Note	r...w	elects the type of notes to specify the delay time for TapC	Sync
	Times	x1...x32	Sets the number of notes to specify the delay time for TapC	
	Level	0...50	Sets the output level of TapC	
d	R Delay Base Note	r...w	Selects the type of notes to specify the delay time for TapR	Sync
	Times	x1...x32	Sets the number of notes to specify the delay time for TapR	
	Level	0...50	Sets the output level of TapR	
e	Feedback (C Delay)	–100...+100	Sets the feedback amount of TapC	
	Src	Off...Tempo	Selects the modulation source for the TapC feedback	
	Amt	–100...+100	Sets the modulation amount of the TapC feedback	
f	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
g	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
h	Spread	0...50	Sets the width of the stereo image of the effect sound	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Time Over?

You can set the delay time up to 5,460msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

75: Stereo BPM Delay

This stereo delay enables you to set the delay time to match the song tempo.



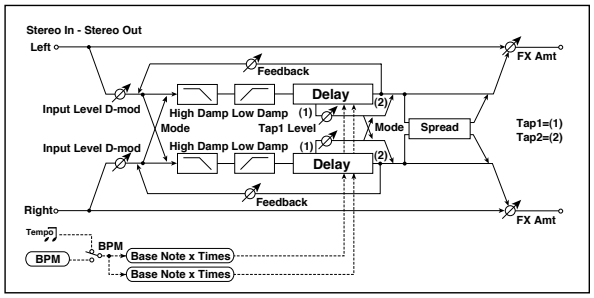
a	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over? L	---, OVER!	Display the error message if the left channel delay time exceeds the upper limit	
	R	---, OVER!	Display the error message if the right channel delay time exceeds the upper limit	
b	L Delay Base Note	r...w	Selects the type of notes to specify the left channel delay time	Sync
	Times	x1...x32	Sets the number of notes to specify the left channel delay time	
	Adjust [%]	–2.50...+2.50	Fine-adjust the left channel delay time	
c	R Delay Base Note	r...w	Selects the type of notes to specify the right channel delay time	Sync
	Times	x1...x32	Sets the number of notes to specify the right channel delay time	
	Adjust [%]	–2.50...+2.50	Fine-adjust the right channel delay time	
d	L Feedback	–100...+100	Sets the feedback amount for the left channel	
	Src	Off...Tempo	Selects the modulation source of feedback amount	
	Amt L	–100...+100	Sets the modulation amount of the left channel feedback	
e	R Feedback	–100...+100	Sets the feedback amount for the right channel	
	Amt R	–100...+100	Sets the modulation amount of the right channel feedback	
f	High Damp [%]	0...100	Sets the damping amount in the high range	
g	Low Damp [%]	0...100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Time Over? L, R

You can set the delay time up to 2,730msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

76: St.BPM Mtap Delay (Stereo BPM Multi tap Delay)

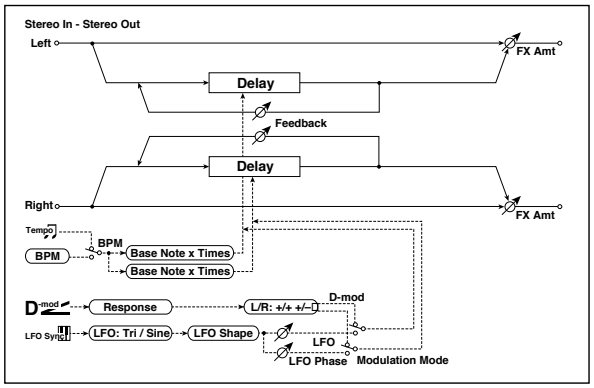
This four-tap delay enables you to select a tempo and rhythm pattern to set up each tap.



a	Mode	Normal, Cross Feedback, Cross Pan1, Cross Pan2	Switches the left and right delay routing	
b	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over? 1	---, OVER!	Displays an error message when the delay time for Tap1 exceeds the upper limit	
	2	---, OVER!	Displays an error message when the delay time for Tap2 exceeds the upper limit	
c	Tap 1 Base Note	r...w	Selects the type of notes to specify the delay time for Tap1	Sync
	Times	x1...x32	Sets the number of notes to specify the delay time for Tap1	
d	Tap 2 Base Note	r...w	Selects the type of notes to specify the delay time for Tap2	Sync
	Times	x1...x32	Sets the number of notes to specify the delay time for Tap2	
e	Tap1 Level	0...100	Sets the Tap1 output level	
f	Feedback (Tap2)	–100...+100	Sets the Tap2 feedback amount	
	Src	Off...Tempo	Selects the modulation source of the Tap2 feedback amount	
	Amt	–100...+100	Sets the modulation amount of the Tap2 feedback amount	
g	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
i	Spread	–100...+100	Sets the width of the stereo image of the effect sound	
	Src	Off...Tempo	Selects the modulation source of the effect sound's stereo image width	
	Amt	–100...+100	Sets the modulation amount of the effect sound's stereo image width	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

77: St.BPM Mod. Delay (Stereo BPM Modulation Delay)

This is a stereo modulation delay that lets you synchronize the delay time to the tempo of the song.



a	Modulation Mode	LFO, D-mod	Switches between LFO modulation control and modulation source control	
b	D-mod Modulation	L/R:+/+, L/R:+/–	Reversed L/R control by modulation source	
	Src	Off...Tempo	Selects the modulation source that controls delay time	
	Response	0...30	Sets the rate of response to the modulation source	
c	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
d	LFO Sync	Off, On	Switches LFO reset off/on	
	Src	Off...Tempo	Selects the modulation source that resets the LFO	
e	LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
f	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes that specify the LFO speed	
	Times	x1...x32	Sets the number of notes that specify the LFO speed	
g	L LFO Phase [deg]	–180...+180	Sets the phase obtained when the left LFO is reset	
	Depth	0...200	Sets the depth of the left LFO modulation	
h	R LFO Phase [deg]	–180...+180	Sets the phase obtained when the right LFO is reset	
	Depth	0...200	Sets the depth of the right LFO modulation	
i	BPM(Delay)	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over? L	---, OVER!	Display the error message if the left channel delay time exceeds the upper limit	
	R	---, OVER!	Display the error message if the right channel delay time exceeds the upper limit	
j	L Delay Base Note	r...w	Selects the type of notes to specify the left channel delay time	Sync
	Times	x1...x32	Sets the number of notes to specify the left channel delay time	
	Feedback	–100...+100	Sets the feedback amount of left delay	
k	R Delay Base Note	r...w	Selects the type of notes to specify the right channel delay time	Sync
	Times	x1...x32	Sets the number of notes to specify the right channel delay time	
	Feedback	–100...+100	Sets the feedback amount of right delay	

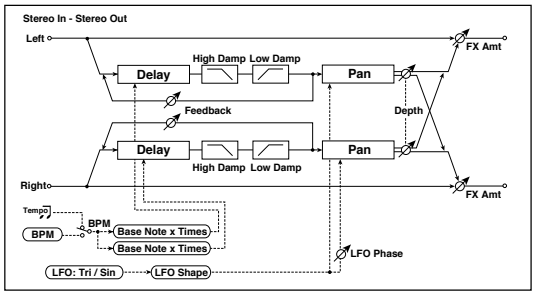
l	Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

i: Time Over? L, R

You can set the delay time up to 2,550msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

78: St.BPMAutoPanDly
(Stereo BPM Auto Panning Delay)

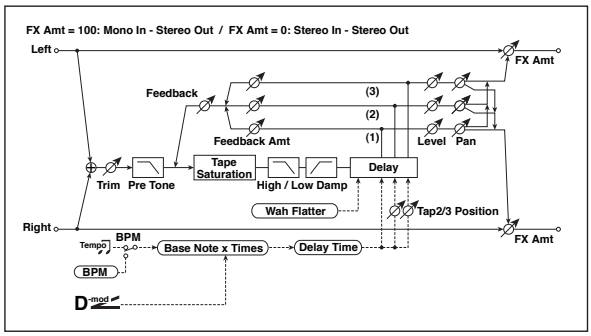
This stereo auto panning delay enables you to set the delay time to match the song tempo.



a	BPM	MIDI, 40.00...300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over? L	---, OVER!	Display the error message if the left channel delay time exceeds the upper limit	
	R	---, OVER!	Display the error message if the right channel delay time exceeds the upper limit	
b	L Delay Base Note	r...w	Selects the type of notes to specify the left channel delay time	Sync
	Times	x1...x32	Sets the number of notes to specify the left channel delay time	
	Feedback	–100...+100	Sets the feedback amount for the left channel	
c	R Delay Base Note	r...w	Selects the type of notes to specify the right channel delay time	Sync
	Times	x1...x32	Sets the number of notes to specify the right channel delay time	
	Feedback	–100...+100	Sets the feedback amount for the right channel	
d	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
e	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	Shape	–100...+100	Changes the curvature of the LFO Waveform	
	LFO Phase	–180...+180	Sets the LFO phase difference between the left and right	
f	Panning Freq [Hz]	0.02...20.00	Sets the panning speed	
g	MIDI Sync	Off, On	When this is on, the pan LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00...300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	r...w	Selects the type of notes to specify the delay time for the panning speed	Sync
	Times	x1...x32	Sets the number of notes to specify the delay time for the panning speed	
h	Panning Depth	0...100	Sets the panning width	
	Src	Off...Tempo	Selects the modulation source for the panning width	
	Amt	–100...+100	Set the modulation amount of the panning width	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

79: Tape Echo BPM

This is a tape echo that lets you synchronize the delay time to the tempo of the song.



a	BPM (Delay)	MIDI, 40.00...300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Tap1 Dmod Src	Off...Tempo	Selects the modulation source of the delay time	
b	Tap1 Delay Note	r...w	Selects the type of notes to specify the delay time (tap1)	Sync
	Times	x1...x32	Sets the number of notes to specify the delay time (tap1)	
	Time Over?	---, OVER!	Displays an error message when the delay time exceeds the upper limit	
c	Tap1 Dmod Note	r...w	Selects the note value used to specify the delay time when the modulation is at maximum	Sync
	Times	x1...x32	Specifies the number of notes used to specify the delay time when the modulation is at maximum	
d	Tap2 Position [%]	0...100	Sets the position of Tap 2 relative to the Tap 1 delay time the depth of pitch variation	
e	Tap3 Position [%]	0...100	Sets the position of Tap 3 relative to the Tap 1 delay time the depth of pitch variation	
f	Tap1 Level	0...100	Sets the Tap1 output level	
	Pan	L, 1...99, R	Sets the stereo image of tap1	
	FB Amt	–100...+100	Sets the Tap1 feedback amount	
g	Tap2 Level	0...100	Sets the Tap2 output level	
	Pan	L, 1...99, R	Sets the stereo image of tap2	
	FB Amt	–100...+100	Sets the Tap2 feedback amount	
h	Tap3 Level	0...100	Sets the Tap3 output level	
	Pan	L, 1...99, R	Sets the stereo image of tap3	
	FB Amt	–100...+100	Sets the Tap3 feedback amount	
i	Feedback	0...100	Sets the amount of feedback for Taps 1, 2, and 3	
	Src	Off...Tempo	Selects the modulation source of feedback amount	
	Amt	–100...+100	Sets the depth by which feedback amount will be modulated	
j	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
k	Saturation	0...100	Sets the distortion amount	
l	Input Trim	0...100	Sets the input gain	
	Pre Tone	0...100	Sets the tone of the input	
m	Wow Flutter [Hz]	0.02...1.00	Sets the frequency at which pitch variation will occur	
	Wow Flutter depth	0...100	Sets the depth of pitch variation	
n	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Tap1 Dmod Src
b: Tap1 Delay Note
b: Times
c: Tap1 Dmod Note
c: Times

If “Tap1 Dmod Src” is Off or the selected modulation is at 0, the delay time will be the length specified by “Tap1 Delay Note” and “Times.”

If “Tap1 Dmod Src” is other than Off, the delay time will change so that it will be as specified by “Tap1 Dmod Note” and “Times” when the maximum modulation is reached.

b: Time Over?

You can set the delay time up to 5,400msec. If the delay time exceeds this limit, the error message “OVER!” appears in the display. Set the delay time parameters so that this message will not appear. “Time Over?” is only a display parameter.

Reverb and Early Reflections (Reverb ER)

80: Reverb Hall

This hall-type reverb simulates the reverberation of mid-size concert halls or ensemble halls.

81: Reverb SmoothHall

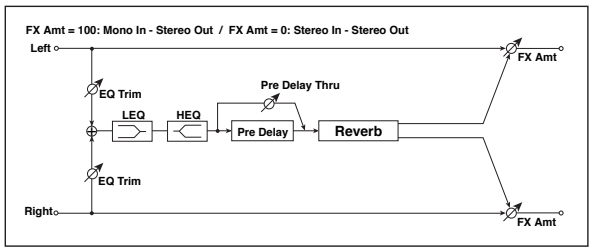
This hall-type reverb simulates the reverberation of larger halls and stadiums, and creates a smooth release.

82: Reverb Wet Plate

This plate reverb simulates warm (dense) reverberation.

83: Reverb Dry Plate

This plate reverb simulates dry (light) reverberation.

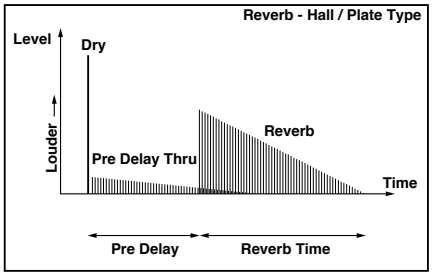


a	Reverb Time [sec]	0.1...10.0	Sets the reverberation time	
	High Damp [%]	0...100	Sets the damping amount in the high range	
b	Pre Delay [msec]	0...200	Sets the delay time from the dry sound	
	Pre Delay Thru [%]	0...100	Sets the mix ratio of non-delay sound	
c	EQ Trim	0...100	Sets the EQ input level	
d	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
e	Pre LEQ Gain [dB]	–15.0...+15.0	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15.0...+15.0	Sets the gain of High EQ	
f	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

b: Pre Delay [msec]
b: Pre Delay Thru [%]

The “Pre Delay” sets the delay time to the reverb input, allowing you to control spaciousness.

Using the “Pre Delay Thru” parameter, you can mix the dry sound without delay, emphasizing the attack of the sound.

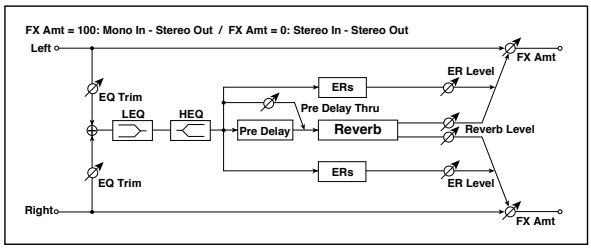


84: Reverb Room

This room-type reverb emphasizes the early reflections that make the sound tighter. Changing the balance between the early reflections and reverb sound allows you to simulate nuances, such as the type of walls of a room.

85: Reverb BrightRoom

This room-type reverb emphasizes the early reflections that make the sound brighter.

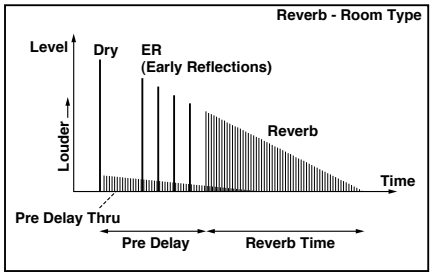


a	Reverb Time [sec]	0.1...3.0	Sets the reverberation time	
	High Damp [%]	0...100	Sets the damping amount in the high range	
b	Pre Delay [msec]	0...200	Sets the delay time from the dry sound	
	Pre Delay Thru [%]	0...100	Sets the mix ratio of non-delay sound	
c	ER Level	0...100	Sets the level of early reflections	
d	Reverb Level	0...100	Sets the reverberation level	
e	EQ Trim	0...100	Sets the EQ input level	
f	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
g	Pre LEQ Gain [dB]	–15.0...+15.0	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15.0...+15.0	Sets the gain of High EQ	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

c: ER Level
d: Reverb Level

These parameters set the early reflection level and reverb level.

Changing these parameter values allows you to simulate the type of walls in the room. That is, a larger “ER Level” simulates a hard wall, and a larger “Reverb Level” simulates a soft wall.

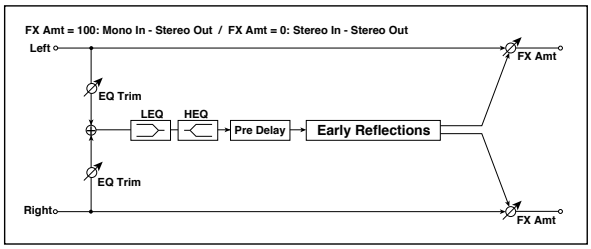


86: Reverb Spring

The R2-type reverbs R2.Spring–R2.Room have a different sonic character than Rev.Hall–Rev.Room2. They model the spring reverb systems that are built into some amps.

87: Early Reflections

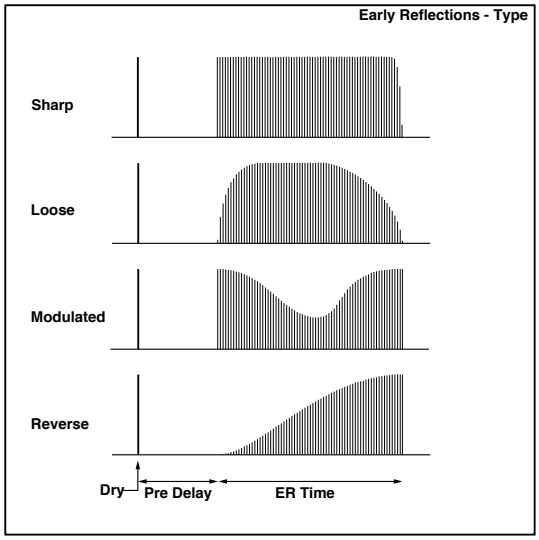
This effect is only the early reflection part of a reverberation sound, and adds presence to the sound. You can select one of the four decay curves.



a	Type	Sharp, Loose, Modulated, Reverse	Selects the decay curve for the early reflection	
b	ER Time [msec]	10...800	Sets the time length of early reflection	
c	Pre Delay [msec]	0...200	Sets the time taken from the original sound to the first early reflection	
d	EQ Trim	0...100	Sets the input level of EQ applied to the effect sound	
e	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
f	Pre LEQ Gain [dB]	–15.0...+15.0	Gain of the Low EQ	
	Pre HEQ Gain [dB]	–15.0...+15.0	Gain of the High EQ	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Type

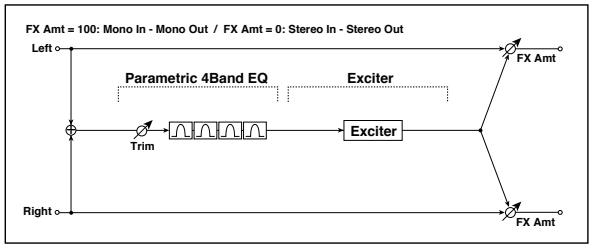
This parameter selects the decay curve for the early reflection.



Mono-Mono Serial (Mono-Mono)

88: P4EQ - Exciter (Parametric 4-Band EQ - Exciter)

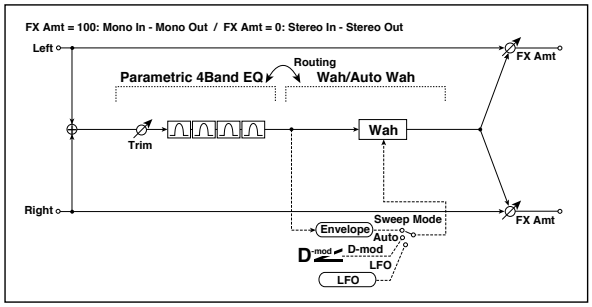
This effect combines a mono four-band parametric equalizer and an exciter.



P4EQ				
a	[E]Trim	0...100	Sets the parametric EQ input level	
b	[E]B1 Cutoff [Hz]	20...1.00k	Sets the center frequency of Band 1	
	Q	0.5...10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18...+18	Sets the gain of Band 1	
c	[E]B2 Cutoff [Hz]	50...5.00k	Sets the center frequency of Band 2	
	Q	0.5...10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18...+18	Sets the gain of Band 2	
d	[E]B3 Cutoff [Hz]	300...10.00k	Sets the center frequency of Band 3	
	Q	0.5...10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18...+18	Sets the gain of Band 3	
e	[E]B4 Cutoff [Hz]	500...20.00k	Sets the center frequency of Band 4	
	Q	0.5...10.0	Sets the bandwidth of Band 4	
	Gain [dB]	–18...+18	Sets the gain of Band 4	
EXCITER				
f	[X]Exciter Blend	–100...+100	Sets the intensity (depth) of the Exciter effect	
g	[X]Emphasis Freq	0...70	Sets the frequency range to be emphasized	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

89: P4EQ - Wah (Parametric 4-Band EQ - Wah/Auto Wah)

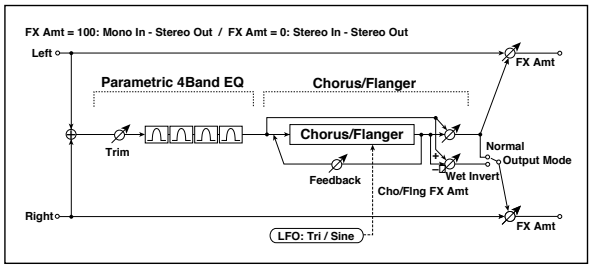
This effect combines a mono four-band parametric equalizer and a wah. You can change the order of the connection.



P4EQ				
a	[E]Trim	0...100	Sets the parametric EQ input level	
	Routing	P4EQ Wah, Wah P4EQ	Changes the order of the parametric equalizer and wah connection	
b	[E]B1 Cutoff [Hz]	20...1.00k	Sets the center frequency of Band 1	
	Q	0.5...10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18...+18	Sets the gain of Band 1	
c	[E]B2 Cutoff [Hz]	50...5.00k	Sets the center frequency of Band 2	
	Q	0.5...10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18...+18	Sets the gain of Band 2	
d	[E]B3 Cutoff [Hz]	300...10.00k	Sets the center frequency of Band 3	
	Q	0.5...10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18...+18	Sets the gain of Band 3	
e	[E]B4 Cutoff [Hz]	500...20.00k	Sets the center frequency of Band 4	
	Q	0.5...10.0	Sets the bandwidth of Band 4	
	Gain [dB]	–18...+18	Sets the gain of Band 4	
WAH				
f	[W]Frequency Bottom	0...100	Sets the lower limit of the wah center frequency	
	Frequency Top	0...100	Sets the upper limit of the wah center frequency	
g	[W]Sweep Mode	Auto, D-mod, LFO	Selects the control from auto-wah, modulation source, and LFO	
	Src	Off...Tempo	Selects the modulation source for the wah when Sweep Mode=D-mod	
h	[W]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Resonance	0...100	Sets the resonance amount	
	LPF	Off, On	Switches the wah low pass filter on and off	
i	[W] Wet/Dry	Dry,1 : 99... 99 : 1, Wet	Sets the wah effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the wah	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the wah	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

90: P4EQ - Cho/Flng (Parametric 4-Band EQ - Chorus/Flanger)

This effect combines a mono four-band parametric equalizer and a chorus/flanger.



P4EQ				
a	[E]Trim	0...100	Sets the parametric EQ input level	
b	[E]B1 Cutoff [Hz]	20...1.00k	Sets the center frequency of Band 1	
	Q	0.5...10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18...+18	Sets the gain of Band 1	
c	[E]B2 Cutoff [Hz]	50...5.00k	Sets the center frequency of Band 2	
	Q	0.5...10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18...+18	Sets the gain of Band 2	
d	[E]B3 Cutoff [Hz]	300...10.00k	Sets the center frequency of Band 3	
	Q	0.5...10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18...+18	Sets the gain of Band 3	
e	[E]B4 Cutoff [Hz]	500...20.00k	Sets the center frequency of Band 4	
	Q	0.5...10.0	Sets the bandwidth of Band 4	
	Gain [dB]	–18...+18	Sets the gain of Band 4	
CHORUS/FLANGER				
f	[F]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
g	[F]Delay Time [msec]	0.0...1350.0	Sets the delay time	
	Depth	0...100	Sets the depth of LFO modulation	
	Feedback	–100...+100	Sets the feedback amount	
h	[F]Cho/Flng Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the effect balance of the chorus/flanger	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the chorus/flanger	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the chorus/flanger	
i	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/flanger	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

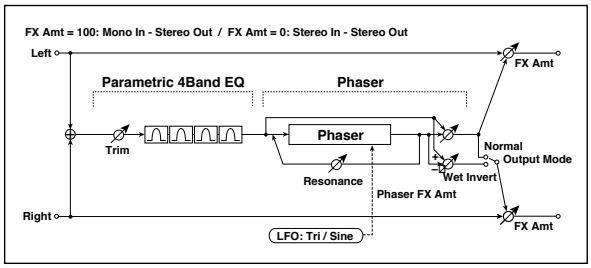
i: Output Mode

When Wet Invert is selected, the right channel phase of the chorus/flanger effect sound is inverted. This creates pseudo-stereo effects and adds spread.

However, if a mono-input type effect is connected after this effect, the left and right sounds may cancel each other, eliminating the chorus/flanger effects.

91: P4EQ - Phaser (Parametric 4-Band EQ - Phaser)

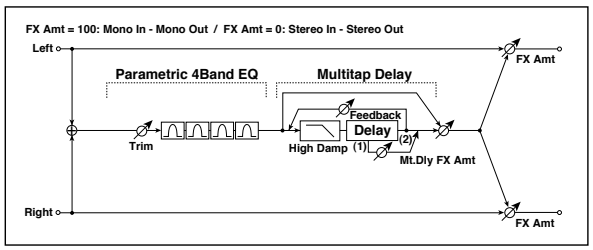
This effect combines a mono four-band parametric equalizer and a phaser.



P4EQ				
a	[E]Trim	0...100	Sets the parametric EQ input level	
b	[E]B1 Cutoff [Hz]	20...1.00k	Sets the center frequency of Band 1	
	Q	0.5...10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18...+18	Sets the gain of Band 1	
c	[E]B2 Cutoff [Hz]	50...5.00k	Sets the center frequency of Band 2	
	Q	0.5...10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18...+18	Sets the gain of Band 2	
d	[E]B3 Cutoff [Hz]	300...10.00k	Sets the center frequency of Band 3	
	Q	0.5...10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18...+18	Sets the gain of Band 3	
e	[E]B4 Cutoff [Hz]	500...20.00k	Sets the center frequency of Band 4	
	Q	0.5...10.0	Sets the bandwidth of Band 4	
	Gain [dB]	–18...+18	Sets the gain of Band 4	
PHASER				
f	[P]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
g	[P]Manual	0...100	Sets the frequency to which the effect is applied	
	Depth	0...100	Sets the depth of LFO modulation	
	Resonance	–100...+100	Sets the resonance amount	
h	[P]Phaser Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the phaser effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the phaser	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the phaser	
i	[P]Output Mode	Normal, Wet Invert	Selects the phaser output mode	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

92: P4EQ - Mt. Delay (Parametric 4-Band EQ - Multitap Delay)

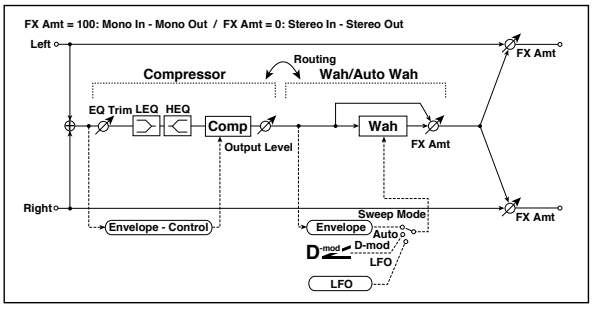
This effect combines a mono four-band parametric equalizer and a multitap delay.



P4EQ				
a	[E]Trim	0...100	Sets the parametric EQ input level	
b	[E]B1 Cutoff [Hz]	20...1.00k	Sets the center frequency of Band 1	
	Q	0.5...10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18...+18	Sets the gain of Band 1	
c	[E]B2 Cutoff [Hz]	50...5.00k	Sets the center frequency of Band 2	
	Q	0.5...10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18...+18	Sets the gain of Band 2	
d	[E]B3 Cutoff [Hz]	300...10.00k	Sets the center frequency of Band 3	
	Q	0.5...10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18...+18	Sets the gain of Band 3	
e	[E]B4 Cutoff [Hz]	500...20.00k	Sets the center frequency of Band 4	
	Q	0.5...10.0	Sets the bandwidth of Band 4	
	Gain [dB]	–18...+18	Sets the gain of Band 4	
MULTITAP DELAY				
f	[D]Tap1 Time [msec]	0.0...1360.0	Sets the Tap1 delay time	
	Tap1 Level	0...100	Sets the Tap1 output level	
g	[D]Tap2 Time [msec]	0.0...1360.0	Sets the Tap2 delay time	
	Feedback (Tap2)	–100...+100	Sets the Tap2 feedback amount	
h	[D]High Damp [%]	0...100	Sets the damping amount in the high range	
i	[D]Mt.Delay Wet/Dry	Dry, 1:99...99:1, Wet	Sets the multitap delay effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the multitap delay	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the multitap delay	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

93: Comp - Wah (Compressor - Wah/Auto Wah)

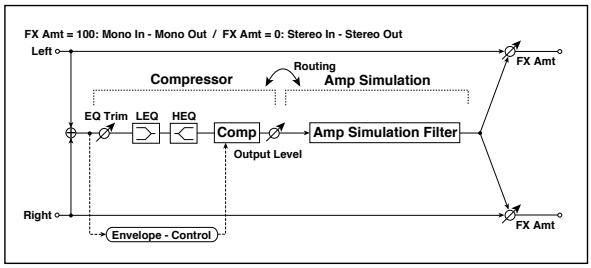
This effect combines a mono compressor and a wah. You can change the order of the connection.



COMPRESSOR				
a	[C] Sensitivity	1...100	Sets the sensitivity	
b	[C]Attack	1...100	Sets the attack level	
	Output Level	0...100	Sets the compressor output level	
c	[C]EQ Trim	0...100	Sets the EQ input level	
d	[C]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
WAH				
e	[W]Frequency Bottom	0...100	Sets the lower limit of the wah center frequency	
	Frequency Top	0...100	Sets the upper limit of the wah center frequency	
f	[w]Sweep Mode	Auto, D-mod, LFO	Selects the control from auto-wah, modulation source, and LFO	
	Src	Off...Tempo	Selects the modulation source for the wah when Sweep Mode=D-mod	
g	[W]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Resonance	0...100	Sets the resonance amount	
	LPF	Off, On	Switches the wah low pass filter on and off	
h	[W]Wet/Dry	Dry, 1 : 99...99 : 1, Wet	Sets the wah effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the wah	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the wah	
i	Routing	Comp Wah, Wah Comp	Switches the order of the compressor and wah	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

94: Comp - Amp Sim (Compressor - Amp Simulation)

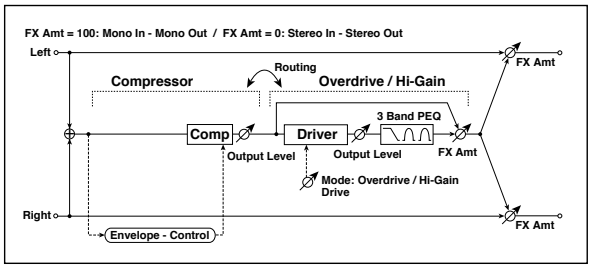
This effect combines a mono compressor and an amp simulation. You can change the order of the effects.



COMPRESSOR				
a	[C] Sensitivity	1...100	Sets the sensitivity	
b	[C]Attack	1...100	Sets the attack level	
	Output Level	0...100	Sets the compressor output level	
c	[C]EQ Trim	0...100	Sets the EQ input level	
d	[C]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
AMP SIM				
e	[A]Amplifier Type	SS, EL84, 6L6	Selects the type of guitar amplifier	
f	Routing	Comp Amp, Amp Comp	Switches the order of the compressor and amp simulation	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

95: Comp - OD/HiGain (Compressor - Overdrive/Hi.Gain)

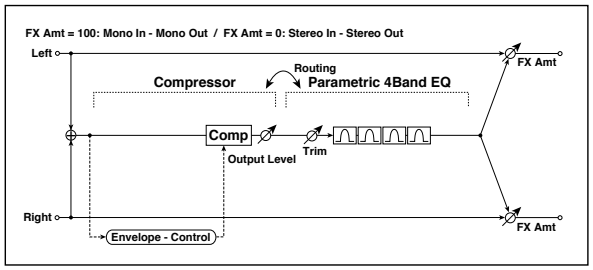
This effect combines a mono compressor and an overdrive/high-gain distortion. You can change the order of the effects.



COMPRESSOR				
a	[C] Sensitivity	1...100	Sets the sensitivity	
b	[C]Attack	1...100	Sets the attack level	
	Output Level	0...100	Sets the compressor output level	
OD/HI-GAIN				
c	[O] Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and high-gain distortion	
	Drive	1...100	Sets the degree of distortion	
d	[O]Output Level	0...50	Sets the overdrive output level	
	Src	Off...Tempo	Selects the modulation source for the overdrive output level	
	Amt	–50...+50	Sets the modulation amount of the overdrive output level	
e	[O]Low Cutoff [Hz]	20...1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	–18...+18	Sets the gain of Low EQ	
f	[O]Mid1 Cutoff [Hz]	300...10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 1	
g	[O]Mid2 Cutoff [Hz]	500...20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 2	
h	[O]Wet/Dry	Dry, 1 : 99...99 : 1, Wet	Sets the overdrive effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the overdrive	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the overdrive	
i	Routing	Comp OD/HG, OD/HG Comp	Switches the order of the compressor and overdrive	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

96: Comp - P4EQ (Compressor - Parametric 4-Band EQ)

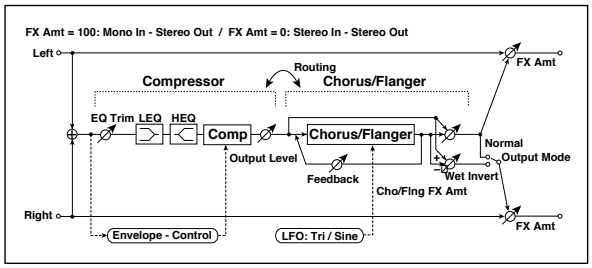
This effect combines a mono compressor and a four-band parametric equalizer. You can change the order of the effects.



COMPRESSOR				
a	[C] Sensitivity	1...100	Sets the sensitivity	
b	[C]Attack	1...100	Sets the attack level	
	Output Level	0...100	Sets the compressor output level	
P4EQ				
c	[E]Trim	0...100	Sets the parametric EQ input level	
d	[E]B1 Cutoff [Hz]	20...1.00k	Sets the center frequency of Band 1	
	Q	0.5...10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18...+18	Sets the gain of Band 1	
e	[E]B2 Cutoff [Hz]	50...5.00k	Sets the center frequency of Band 2	
	Q	0.5...10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18...+18	Sets the gain of Band 2	
f	[E]B3 Cutoff [Hz]	300...10.00k	Sets the center frequency of Band 3	
	Q	0.5...10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18...+18	Sets the gain of Band 3	
g	[E]B4 Cutoff [Hz]	500...20.00k	Sets the center frequency of Band 4	
	Q	0.5...10.0	Sets the bandwidth of Band 4	
	Gain [dB]	–18...+18	Sets the gain of Band 4	
h	Routing	Comp P4EQ, P4EQ Comp	Switches the order of the compressor and parametric EQ	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

97: Comp - Cho/Flng (Compressor - Chorus/Flanger)

This effect combines a mono compressor and a chorus/flanger. You can change the order of the effects.



COMPRESSOR				
a	[C] Sensitivity	1...100	Sets the sensitivity	
b	[C]Attack	1...100	Sets the attack level	
	Output Level	0...100	Sets the compressor output level	
c	[C]EQ Trim	0...100	Sets the EQ input level	
d	[C]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
CHORUS/FLANGER				
e	[F]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
f	[F]Delay Time [msec]	0.0...1350.0	Sets the delay time	
	Depth	0...100	Sets the depth of LFO modulation	
	Feedback	–100...+100	Sets the feedback amount	
g	[F]Cho/Flng Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the effect balance of the chorus/flanger ,	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the chorus/flanger	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the chorus/flanger	
h	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/flanger	
i	Routing	Comp Flanger, Flanger Comp	Switches the order of the compressor and chorus/flanger	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

h: [F]Output Mode
i: Routing

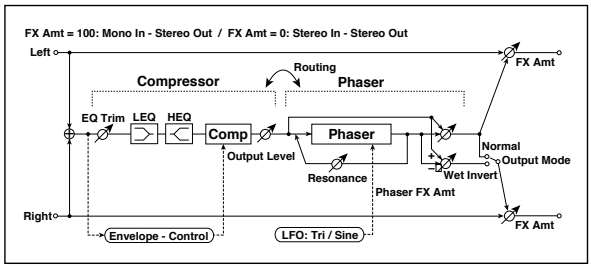
When Wet Invert is selected, the right channel phase of the chorus/flanger effect sound is inverted. This creates pseudo-stereo effects and adds spread.

However, if a mono-input type effect is connected after this effect, the left and right sounds may cancel each other, eliminating the chorus/flanger effects.

When “Routing” is set to Flangerç Comp, “[F]Output Mode” will be set to Normal.

98: Comp - Phaser (Compressor - Phaser)

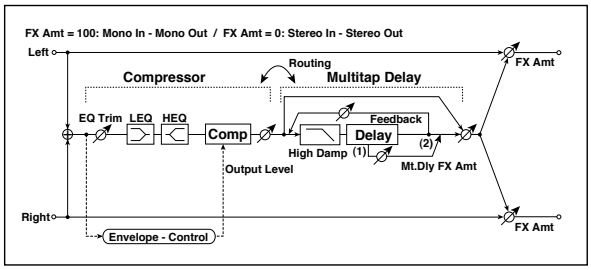
This effect combines a mono compressor and a phaser. You can change the order of the effects.



COMPRESSOR				
a	[C] Sensitivity	1...100	Sets the sensitivity	
b	[C]Attack	1...100	Sets the attack level	
	Output Level	0...100	Sets the compressor output level	
c	[C]EQ Trim	0...100	Sets the EQ input level	
d	[C]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
PHASER				
e	[P]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
f	[P]Manual	0...100	Sets the frequency to which the effect is applied	
	Depth	0...100	Sets the depth of LFO modulation	
	Resonance	–100...+100	Sets the resonance amount	
g	[P]Phaser Wet/ Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the phaser effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the phaser	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the phaser	
h	[F]Output Mode	Normal, Wet Invert	Selects the phaser output mode	
i	Routing	Comp Phaser, Phaser Comp	Switches the order of the compressor and phaser	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

99: Comp - Mt. Delay (Compressor - Multitap Delay)

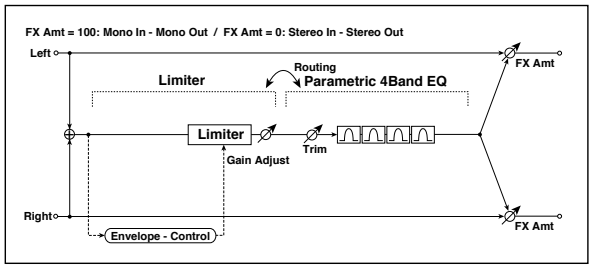
This effect combines a mono compressor and a multitap delay. You can change the order of the effects.



COMPRESSOR				
a	[C] Sensitivity	1...100	Sets the sensitivity	
b	[C]Attack	1...100	Sets the attack level	
	Output Level	0...100	Sets the compressor output level	
c	[C]EQ Trim	0...100	Sets the EQ input level	
d	[C]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
MULTITAP DELAY				
e	[D]Tap1 Time [msec]	0.0...1360.0	Sets the Tap1 delay time	
	Tap1 Level	0...100	Sets the Tap1 output level	
f	[D]Tap2 Time [msec]	0.0...1360.0	Sets the Tap2 delay time	
	Feedback (Tap2)	–100...+100	Sets the Tap2 feedback amount	
g	[D]High Damp [%]	0...100	Sets the damping amount in the high range	
h	[D]Mt.Delay Wet/Dry	Dry, 1 : 99...99 : 1, Wet	Sets the multitap delay effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the multitap delay	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the multitap delay	
i	Routing	Comp Mt.Delay, Mt.Delay Comp	Switches the order of the compressor and multitap delay	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

100: Limiter - P4EQ
(Limiter - Parametric 4-Band EQ)

This effect combines a mono limiter and a four-band parametric equalizer. You can change the order of the effects.

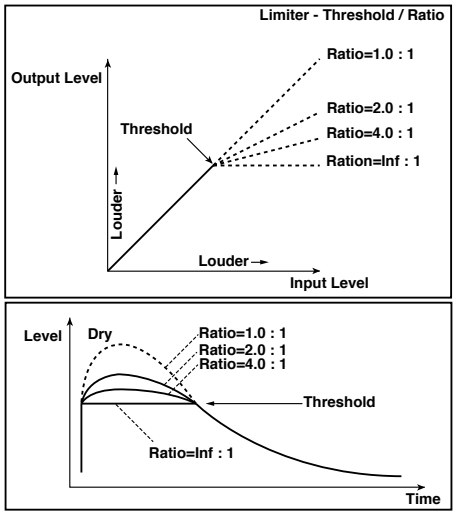


LIMITER				
a	[L]Ratio	1.0 : 1... 50.0 : 1, Inf : 1	Sets the signal compression ratio	
	Threshold [dB]	–40...0	Sets the level above which the compressor is applied	
b	[L]Attack	1...100	Sets the attack time	
	Release	1...100	Sets the release time	
c	[L]Gain Adjust [dB]	–Inf, –38...+24	Sets the limiter output gain	
P4EQ				
d	[E]Trim	0...100	Sets the parametric EQ input level	
e	[E]B1 Cutoff [Hz]	20...1.00k	Sets the center frequency of Band 1	
	Q	0.5...10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18...+18	Sets the gain of Band 1	
f	[E]B2 Cutoff [Hz]	50...5.00k	Sets the center frequency of Band 2	
	Q	0.5...10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18...+18	Sets the gain of Band 2	
g	[E]B3 Cutoff [Hz]	300...10.00k	Sets the center frequency of Band 3	
	Q	0.5...10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18...+18	Sets the gain of Band 3	
h	[E]B4 Cutoff [Hz]	500...20.00k	Sets the center frequency of Band 4	
	Q	0.5...10.0	Sets the bandwidth of Band 4	
	Gain [dB]	–18...+18	Sets the gain of Band 4	
i	Routing	Limiter P4EQ, P4EQ Limiter	Switches the order of the limiter and parametric EQ	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: [L]Ratio
a: Threshold [dB]
c: [L]Gain Adjust [dB]

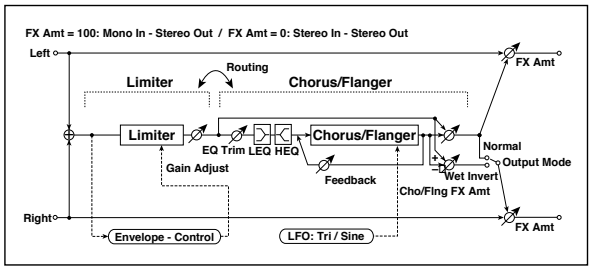
This parameter sets the signal compression “[L]Ratio”. Compression is applied only when the signal level exceeds the “Threshold” value.

Adjust the output level using the “Gain Adjust” parameter, since compression causes the entire level to be reduced.



101: Limiter - Cho/Flng (Limiter - Chorus/Flanger)

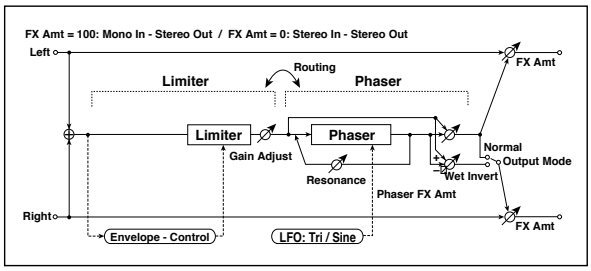
This effect combines a mono limiter and a chorus/flanger. You can change the order of the effects.



LIMITER				
a	[L]Ratio	1.0 : 1... 50.0 : 1, Inf : 1	Sets the signal compression ratio	
	Threshold [dB]	–40...0	Sets the level above which the compressor is applied	
b	[L]Attack	1...100	Sets the attack time	
	Release	1...100	Sets the release time	
c	[L]Gain Adjust [dB]	–Inf, –38...+24	Sets the limiter output gain	
CHORUS/FLANGER				
d	[F]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
e	[F]Delay Time [msec]	0.0...1350.0	Sets the delay time	
	Depth	0...100	Sets the depth of LFO modulation	
	Feedback	–100...+100	Sets the feedback amount	
f	[F]EQ Trim	0...100	Sets the EQ input level	
g	[F]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
h	[F]Cho/Flng Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the effect balance of the chorus/flanger	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the chorus/flanger	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the chorus/flanger	
i	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/flanger	
	Routing	Limiter Flanger, Flanger Limiter	Switches the order of the limiter and chorus/flanger	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

102: Limiter - Phaser

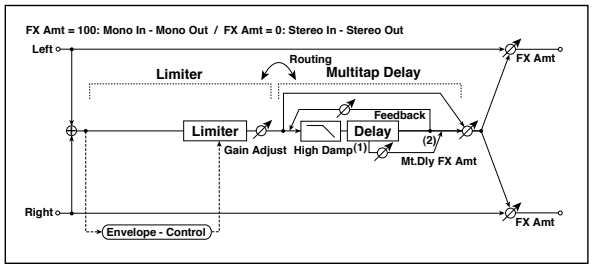
This effect combines a mono limiter and a phaser. You can change the order of the effects.



LIMITER				
a	[L]Ratio	1.0 : 1... 50.0 : 1, Inf : 1	Sets the signal compression ratio	
	Threshold [dB]	–40...0	Sets the level above which the compressor is applied	
b	[L]Attack	1...100	Sets the attack time	
	Release	1...100	Sets the release time	
c	[L]Gain Adjust [dB]	–Inf, –38...+24	Sets the limiter output gain	
PHASER				
d	[P]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
e	[P]Manual	0...100	Sets the frequency to which the effect is applied	
	Depth	0...100	Sets the depth of LFO modulation	
	Resonance	–100...+100	Sets the resonance amount	
f	[P]Phaser Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the phaser effect balance	
	Src	Off...Tempo	Selects the phaser’s Wet/Dry modulation source	
	Amt	–100...+100	Sets the phaser’s Wet/Dry modulation amount	
g	[P]Output Mode	Normal, Wet Invert	Selects the phaser output mode	
h	Routing	Limiter Phaser, Phaser Limiter	Switches the order of the limiter and phaser	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

103: Limiter - Mt.Delay (Limiter - Multitap Delay)

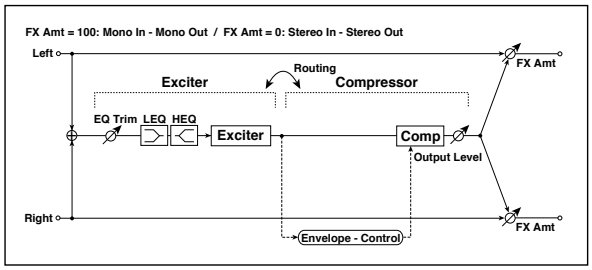
This effect combines a mono limiter and a multitap delay. You can change the order of the effects.



LIMITER				
a	[L]Ratio	1.0 : 1... 50.0 : 1, Inf : 1	Sets the signal compression ratio	
	Threshold [dB]	–40...0	Sets the level above which the compressor is applied	
b	[L]Attack	1...100	Sets the attack time	
	Release	1...100	Sets the release time	
c	[L]Gain Adjust [dB]	–Inf, –38...+24	Sets the limiter output gain	
MULTITAP DELAY				
d	[D]Tap1 Time [msec]	0.0...1360.0	Sets the Tap1 delay time	
	Tap1 Level	0...100	Sets the Tap1 output level	
e	[D]Tap2 Time [msec]	0.0...1360.0	Sets the Tap2 delay time	
	Feedback	–100...+100	Sets the Tap2 feedback amount	
f	[D]High Damp [%]	0...100	Sets the damping amount in the high range	
g	[D]Mt.Delay Wet/Dry	Dry, 1:99...99:1, Wet	Sets the multitap delay effect balance	
	Src	Off...Tempo	Selects the multitap delay's Wet/Dry modulation source	
	Amt	–100...+100	Sets the multitap delay's Wet/Dry modulation amount	
h	Routing	Limiter Mt.Delay, Mt.Delay Limiter	Switches the order of the limiter and multitap delay	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

104: Exciter - Comp (Exciter -Compressor)

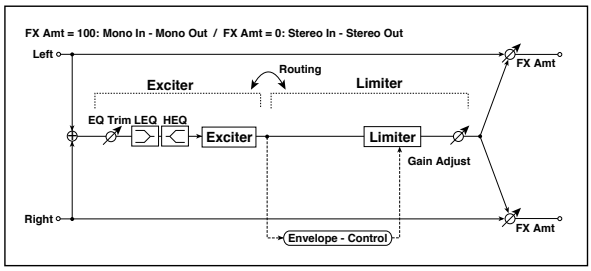
This effect combines a mono exciter and a compressor. You can change the order of the effects.



EXCITER				
a	[X]Exciter Blend	–100...+100	Sets the intensity (depth) of the Exciter effect	
b	[X]Emphasis Frequency	0...70	Sets the frequency range to be emphasized	
c	[X]EQ Trim	0...100	Sets the EQ input level	
d	[X]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
COMPRESSOR				
e	[C] Sensitivity	1...100	Sets the sensitivity	
f	[C]Attack	1...100	Sets the attack level	
	Output Level	0...100	Sets the compressor output level	
g	Routing	Exciter Comp, Comp Exciter	Switches the order of the exciter and compressor	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

105: Exciter - Limiter

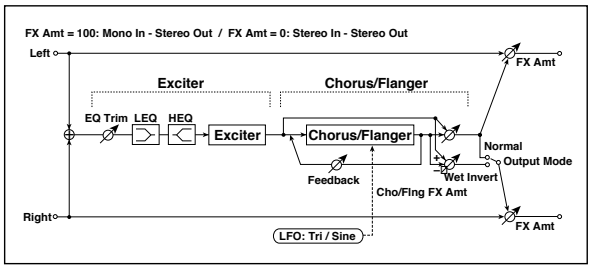
This effect combines a mono exciter and a limiter. You can change the order of the effects.



EXCITER				
a	[X]Exciter Blend	–100...+100	Sets the intensity (depth) of the Exciter effect	
b	[X]Emphasis Frequency	0...70	Sets the frequency range to be emphasized	
c	[X]Trim	0...100	Sets the EQ input level	
d	[X]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
LIMITER				
e	[L]Ratio	1.0 : 1... 50.0 : 1, Inf : 1	Sets the signal compression ratio	
f	[L]Threshold [dB]	–40...0	Sets the level above which the compressor is applied	
g	[L]Attack	1...100	Sets the attack time	
	Release	1...100	Sets the release time	
h	[L]Gain Adjust [dB]	–Inf, –38...+24	Sets the limiter output gain	
i	Routing	Exciter Limiter, Limiter Exciter	Switches the order of the exciter and limiter	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

106: Exciter - Cho/Flng (Exciter - Chorus/Flanger)

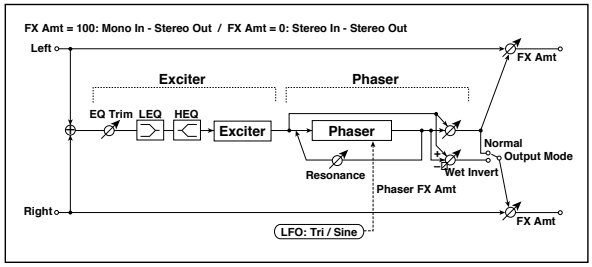
This effect combines a mono limiter and a chorus/flanger.



EXCITER				
a	[X]Exciter Blend	–100...+100	Sets the intensity (depth) of the Exciter effect	
b	[X]Emphasis Frequency	0...70	Sets the frequency range to be emphasized	
c	[X]Trim	0...100	Sets the EQ input level	
d	[X]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
CHORUS/FLANGER				
e	[F]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
f	[F]Delay Time [msec]	0.0...1350.0	Sets the delay time	
	Depth	0...100	Sets the depth of LFO modulation	
	Feedback	–100...+100	Sets the feedback amount	
g	[F]Cho/Flng Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the effect balance of the chorus/flanger	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the chorus/flanger	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the chorus/flanger	
h	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/flanger	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

107: Exciter - Phaser

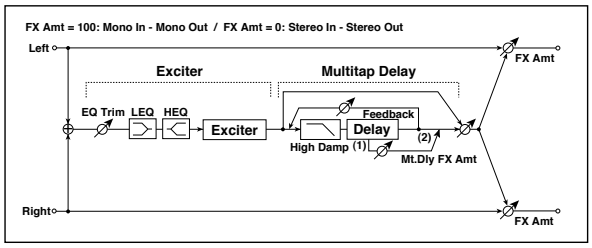
This effect combines a mono limiter and a phaser.



EXCITER				
a	[X]Exciter Blend	–100...+100	Sets the intensity (depth) of the Exciter effect	
b	[X]Emphasis Frequency	0...70	Sets the frequency range to be emphasized	
c	[X]Trim	0...100	Sets the EQ input level	
d	[X]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
PHASER				
e	[P]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
f	[P]Manual	0...100	Sets the frequency to which the effect is applied	
	Depth	0...100	Sets the depth of LFO modulation	
	Resonance	–100...+100	Sets the resonance amount	
g	[P]Phaser Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the phaser effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the phaser	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the phaser	
h	[P]Output Mode	Normal, Wet Invert	Selects the phaser output mode	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

108: Exciter - Mt.Delay (Exciter - Multitap Delay)

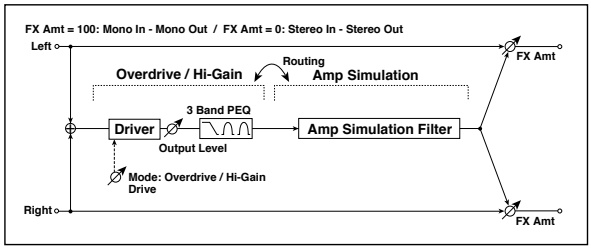
This effect combines a mono exciter and a multitap delay.



EXCITER				
a	[X]Exciter Blend	–100...+100	Sets the intensity (depth) of the Exciter effect	
b	[X]Emphasis Frequency	0...70	Sets the frequency range to be emphasized	
c	[X]Trim	0...100	Sets the EQ input level	
d	[X]Pre LEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
MULTITAP DELAY				
e	[D]Tap1 Time [msec]	0.0...1360.0	Sets the Tap1 delay time	
	Tap1 Level	0...100	Sets the Tap1 output level	
f	[D]Tap2 Time [msec]	0.0...1360.0	Sets the Tap2 delay time	
	Feedback (Tap2)	–100...+100	Sets the Tap2 feedback amount	
g	[D]High Damp [%]	0...100	Sets the damping amount in the high range	
h	[D]Mt.Delay Wet/Dry	Dry, 1:99...99:1, Wet	Sets the multitap delay effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the multitap delay	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the multitap delay	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

109: OD/HG - Amp Sim (Overdrive/Hi.Gain - Amp Simulation)

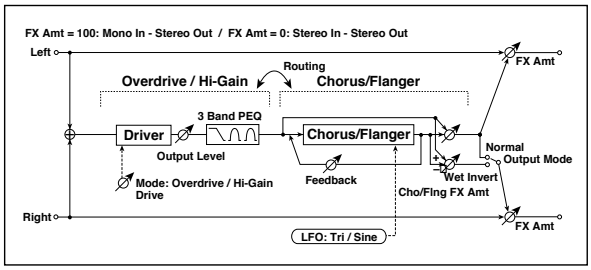
This effect combines a mono overdrive/high-gain distortion and an amp simulation. You can change the order of the effects.



OD/HI-GAIN				
a	[O]Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and high-gain distortion	
	Drive	1...100	Sets the degree of distortion	
b	[O]Output Level	0...50	Sets the overdrive output level	
	Src	Off...Tempo	Selects the modulation source for the overdrive output level	
	Amt	–50...+50	Sets the modulation amount of the overdrive output level	
e	[O]Low Cutoff [Hz]	20...1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	–18...+18	Sets the gain of Low EQ	
f	[O]Mid1 Cutoff [Hz]	300...10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 1	
g	[O]Mid2 Cutoff [Hz]	500...20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 2	
AMP SIM				
h	[A]Amplifier Type	SS, EL84, 6L6	Selects the type of guitar amplifie	
i	Routing	OD/HG Amp, Amp OD/HG	Switches the order of the overdrive and amp	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

110: OD/HG - Cho/Flng (Overdrive/Hi.Gain - Chorus/Flanger)

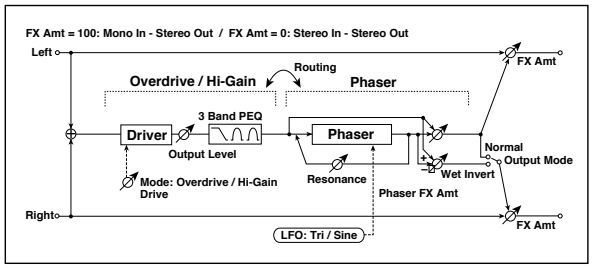
This effect combines a mono overdrive/high-gain distortion and a chorus/flanger. You can change the order of the effects.



OD/HI-GAIN				
a	[O]Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and high-gain distortion	
	Drive	1...100	Sets the degree of distortion	
b	[O]Output Level	0...50	Sets the overdrive output level	
	Src	Off...Tempo	Selects the modulation source for the overdrive output level	
	Amt	–50...+50	Sets the modulation amount of the overdrive output level	
e	[O]Low Cutoff [Hz]	20...1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	–18...+18	Sets the gain of Low EQ	
f	[O]Mid1 Cutoff [Hz]	300...10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 1	
g	[O]Mid2 Cutoff [Hz]	500...20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 2	
CHORUS/FLANGER				
h	[F]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
i	[F]Delay Time [msec]	0.0...1350.0	Sets the delay time	
	Depth	0...100	Sets the depth of LFO modulation	
	Feedback	–100...+100	Sets the feedback amount	
j	[F]Cho/Flng Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the effect balance of the chorus/flanger	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the chorus/flanger	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the chorus/flanger	
k	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/flanger	
	Routing	OD/HG Flanger, Flanger OD/HG	Switches the order of the overdrive and chorus / flanger	
l	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

111: OD/HG - Phaser (Overdrive/Hi.Gain - Phaser)

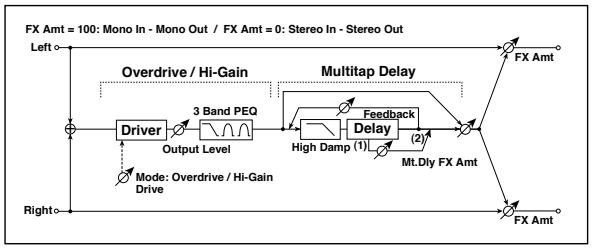
This effect combines a mono overdrive/high-gain distortion and a phaser. You can change the order of the effects.



OD/HI-GAIN				
a	[O]Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and high-gain distortion	
	Drive	1...100	Sets the degree of distortion	
b	[O]Output Level	0...50	Sets the overdrive output level	
	Src	Off...Tempo	Selects the modulation source for the overdrive output level	
	Amt	–50...+50	Sets the modulation amount of the overdrive output level	
e	[O]Low Cutoff [Hz]	20...1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	–18...+18	Sets the gain of Low EQ	
f	[O]Mid1 Cutoff [Hz]	300...10.00k	Sets the center frequency for Mid/ High EQ 1 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 1	
g	[O]Mid2 Cutoff [Hz]	500...20.00k	Sets the center frequency for Mid/ High EQ 2 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 2	
PHASER				
h	[P]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
i	[P]Manual	0...100	Sets the frequency to which the effect is applied	
	Depth	0...100	Sets the depth of LFO modulation	
	Resonance	–100...+100	Sets the resonance amount	
j	[P]Phaser Wet/ Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the phaser effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the phaser	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the phaser	
k	[P]Output Mode	Normal, Wet Invert	Selects the phaser output mode	
	Routing	OD/HG Phaser, Phaser OD/HG	Switches the order of the overdrive and phaser	
l	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

112: OD/HG - Mt.Delay (Overdrive/Hi.Gain - Multitap Delay)

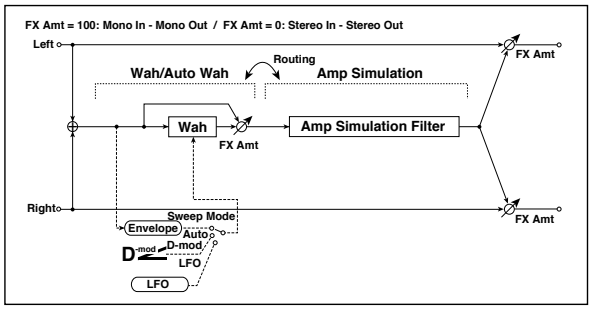
This effect combines a mono overdrive/high-gain distortion and a multitap delay.



OD/HI-GAIN				
a	[O]Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and high-gain distortion	
	Drive	1...100	Sets the degree of distortion	
b	[O]Output Level	0...50	Sets the overdrive output level	
	Src	Off...Tempo	Selects the modulation source for the overdrive output level	
	Amt	–50...+50	Sets the modulation amount of the overdrive output level	
e	[O]Low Cutoff [Hz]	20...1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	–18...+18	Sets the gain of Low EQ	
f	[O]Mid1 Cutoff [Hz]	300...10.00k	Sets the center frequency for Mid/ High EQ 1 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 1	
g	[O]Mid2 Cutoff [Hz]	500...20.00k	Sets the center frequency for Mid/ High EQ 2 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 2	
MULTITAP DELAY				
h	[D]Tap1 Time [msec]	0.0...1360.0	Sets the Tap1 delay time	
	Tap1 Level	0...100	Sets the Tap1 output level	
i	[D]Tap2 Time [msec]	0.0...1360.0	Sets the Tap2 delay time	
	Feedback	–100...+100	Sets the Tap2 feedback amount	
j	[D]High Damp [%]	0...100	Sets the damping amount in the high range	
k	[D]Mt.Delay Wet/Dry	Dry, 1:99...99:1, Wet	Sets the multitap delay effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the multitap delay	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the multitap delay	
l	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

113: Wah - Amp Sim (Wah - Amp Simulation)

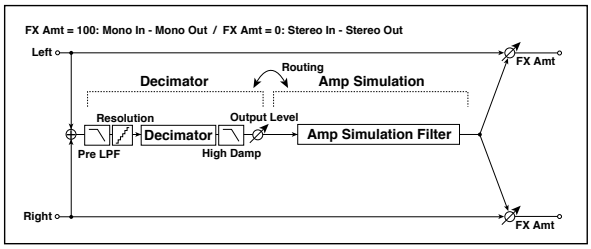
This effect combines a mono wah and an amp simulation. You can change the order of the effects.



WAH				
a	[W] Frequency Bottom	0...100	Sets the lower limit of the wah center frequency	
	Frequency Top	0...100	Sets the upper limit of the wah center frequency	
b	[W]Sweep Mode	Auto, D-mod, LFO	Selects the control from auto-wah, modulation source, and LFO	
	Src	Off...Tempo	Selects the modulation source for the wah when Sweep Mode=D-mod	
c	[W]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	Resonance	0...100	Sets the resonance amount	
	LPF	Off, On	Switches the wah low pass filter on and off	
d	[W]Wet/Dry	Dry, 1:99...99:1, Wet	Sets the wah effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the wah	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the wah	
AMP SIM				
e	[A]Amplifier Type	SS, EL84, 6L6	Selects the type of guitar amplifier	
f	Routing	Wah Amp, Amp Wah	Switches the order of the wah and amp simulation	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

114: Decimator - Amp (Decimator - Amp Simulation)

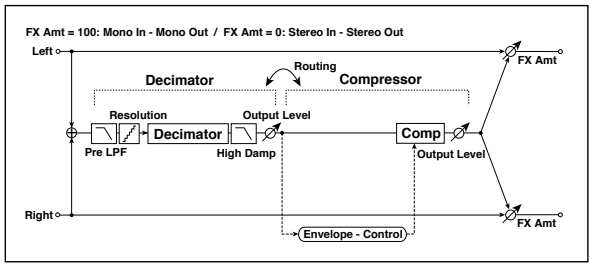
This effect combines a mono decimator and an amp simulation. You can change the order of the effects.



DECIMATOR				
a	[D]Pre LPF	Off, On	Turn the harmonic noise caused by lowered sampling on and off	
	High Damp [%]	0...100	Sets the ratio of high-range damping	
b	[D]Sampling Freq [Hz]	1.00k...48.00k	Sets the sampling frequency	
	Resolution	4...24	Sets the data bit length	
c	[D]Output Level	0...100	Sets the decimator output level	
AMP SIM				
d	[A]Amplifier Type	SS, EL84, 6L6	Selects the type of guitar amplifier	
e	Routing	Decimator Amp, Amp Decimator	Switches the order of the decimator and amp simulation	
f	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

115: Decimator - Comp (Decimator - Compressor)

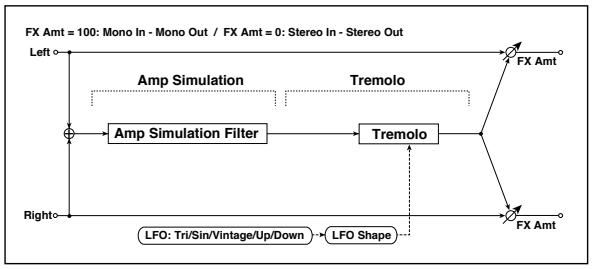
This effect combines a mono decimator and a compressor. You can change the order of the effects.



DECIMATOR				
a	[D]Pre LPF	Off, On	Turn the harmonic noise caused by lowered sampling on and off	
	High Damp [%]	0...100	Sets the ratio of high-range damping	
b	[D]Sampling Freq [Hz]	1.00k...48.00k	Sets the sampling frequency	
	Resolution	4...24	Sets the data bit length	
c	[D]Output Level	0...100	Sets the decimator output level	
COMPRESSOR				
d	[C] Sensitivity	1...100	Sets the sensitivity	
e	[C]Attack	1...100	Sets the attack level	
	Output Level	0...100	Sets the compressor output level	
f	Routing	Decimator Comp, Comp Decimator	Switches the order of the decimator and compressor	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

116: AmpSim - Tremolo (Amp Simulation- Tremolo)

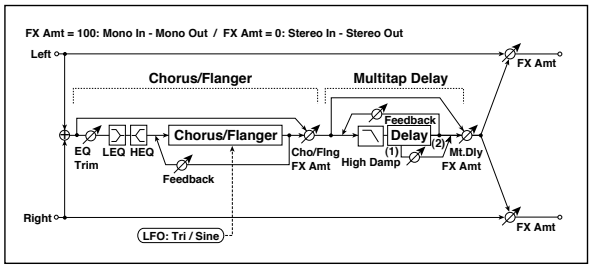
This effect combines a mono amp simulation and a tremolo.



AMP SIM				
a	[A]Amplifier Type	SS, EL84, 6L6	Selects the type of guitar amplifier	
TREMOLO				
b	[T]LFO Waveform	Triangle, Sine, Vintage, Up, Down	Selects the LFO Waveform	
	LFO Shape	–100...+100	Changes the curvature of the LFO Waveform	
c	[T]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
d	[T]Depth	0...100	Sets the depth of LFO modulation	
e	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

117: Cho/Flng - Mt.Dly (Chorus/Flanger - Multitap Delay)

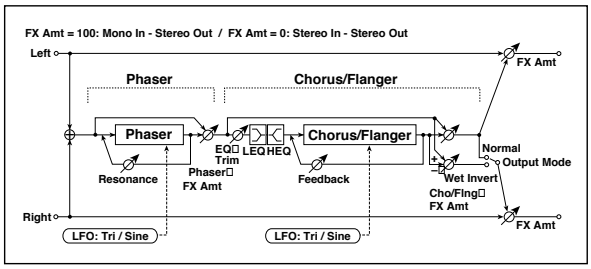
This effect combines a mono chorus/flanger and a multitap delay.



CHORUS/FLANGER				
a	[F]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
b	[F]Delay Time [msec]	0.0...1350.0	Sets the delay time	
	Depth	0...100	Sets the depth of LFO modulation	
	Feedback	–100...+100	Sets the feedback amount	
c	[F]EQ Trim	0...100	Sets the EQ input level	
d	[F]PreLEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	PreHEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
e	[F]Cho/Flng Wet/Dry	–Wet...–1 : 99, Dry, 1 : 99...Wet	Sets the effect balance of the chorus/flanger	
MULTITAP DELAY				
a	[D]Tap1 Time [msec]	0.0...1360.0	Sets the Tap1 delay time	
	Tap1 Level	0...100	Sets the Tap1 output level	
b	[D]Tap2 Time [msec]	0.0...1360.0	Sets the Tap2 delay time	
	Feedback	–100...+100	Sets the Tap2 feedback amount	
c	[D]High Damp [%]	0...100	Sets the damping amount in the high range	
d	[D]Mt.DelayWet/Dry	Dry, 1:99...99:1, Wet	Sets the multitap delay effect balance	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the multitap delay	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the multitap delay	
e	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

118: Phaser - Cho/Flng (Phaser - Chorus/Flanger)

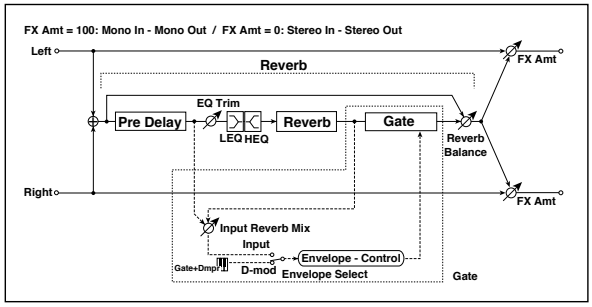
This effect combines a mono phaser and a chorus/flanger.



PHASER				
a	[P]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
b	[P]Manual	0...100	Sets the frequency to which the effect is applied	
	Depth	0...100	Sets the depth of LFO modulation	
	Resonance	–100...+100	Sets the resonance amount	
c	[P]Phaser Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the phaser effect balance	
CHORUS/FLANGER				
d	[F]LFO Frequency [Hz]	0.02...20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
e	[F]Delay Time [msec]	0.0...1350.0	Sets the delay time	
	Depth	0...100	Sets the depth of LFO modulation	
	Feedback	–100...+100	Sets the feedback amount	
f	[F]EQ Trim	0...100	Sets the EQ input level	
g	[F]PreLEQ Gain [dB]	–15...+15	Sets the gain of Low EQ	
	PreHEQ Gain [dB]	–15...+15	Sets the gain of High EQ	
h	[F]Cho/Flng Wet/Dry	-Wet, -1:99...Dry...99:1, Wet	Sets the effect balance of the chorus/flanger	
	Src	Off...Tempo	Selects the Wet/Dry modulation source for the chorus/flanger	
	Amt	–100...+100	Sets the Wet/Dry modulation amount for the chorus/flanger	
i	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/flanger	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

119: Reverb - Gate

This effect combines a mono reverb and a gate.



REVERB				
a	[R]Reverb Time [sec]	0.1...10.0	Sets the reverberation time	
	High Damp [%]	0...100	Sets the damping amount in the high range	
b	[R]Pre Delay [msec]	0...200	Sets the delay time of the reverb sound and gate control signal	
c	[R]EQ Trim	0...100	Sets the EQ input level	
	Reverb Balance	0...100	Sets the reverb effect balance	
d	[R]PreLEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
e	[R]PreLEQ Gain [dB]	–15.0...+15.0	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15.0...+15.0	Sets the gain of High EQ	
GATE				
f	[G]Envelope Select	D-mod, Input	Switches between modulation source control and input signal control	
	Src	Off...Tempo	Selects the modulation source that controls the gate when Envelope Select is set to D-mod	
g	[G]Input Reverb Mix	0...100	Sets the balance between the dry and reverb sounds of the gate control signal	
	Threshold	0...100	Sets the gate threshold level	
h	[G]Polarity	+, –	Switches between non-invert and invert of the gate on/off state	
i	[G]Attack	1...100	Sets the attack time	
	Release	1...100	Sets the release time	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

f: [G]Envelope Select
f: Src
g: [G]Input Reverb Mix
g: Threshold

The "[G]Envelope Select" parameter enables you to select whether turning the gate on and off is triggered by the input signal level or controlled directly by the modulation source. You can select from Off to Tempo for the Src parameter to specify the modulation source.

When "[G]Envelope Select" is set to Input, the gate is controlled by the level of signals that are the combination of the dry sound and the reverb sound. When the signal level exceeds the threshold, the gate opens and the reverb sound is output.

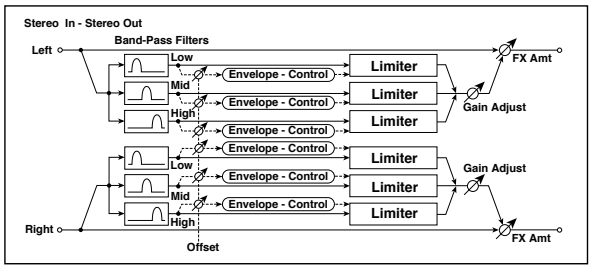
Normally, set "[G]Input Reverb Mix" to Dry (the gate is controlled only by the dry sound). If you wish to extend the gate time, set the "[G]Input Reverb Mix" value higher and adjust the "Threshold" value.

Double Size

Double-size effects take two processing units, therefore "stealing" one unit to the following FX processors.

120: St. Mltband Limiter (Stereo Mltband Limiter)

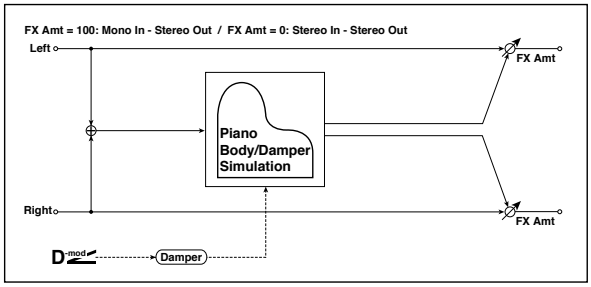
This is a stereo multiband limiter.



a	Ratio	1.0 : 1... 50.0 : 1, Inf : 1	Sets the signal compression ratio	
b	Threshold [dB]	–40...0	Sets the level above which the compressor is applied	
c	Attack	1...100	Sets the attack time	
d	Release	1...100	Sets the release time	
e	Low Offset [dB]	–40...0	Sets the low range gain of trigger signal	
f	Mid Offset [dB]	–40...0	Sets the mid range gain of trigger signal	
g	High Offset [dB]	–40...0	Sets the high range gain of trigger signal	
h	Gain Adjust [dB]	–Inf, –38...+24	Sets the output gain	
	Src	Off...Tempo	Selects the modulation source for the output gain	
	Amt	–63...+63	Sets the modulation amount of the output gain	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

121: PianoBody/Damper (PianoBody/Damper Simulation)

This effect simulates the resonance of the piano sound board caused by the string vibration, and also simulates the resonance of other strings that are not being played when you press the damper pedal. It will create a very realistic sound when applied to acoustic piano sounds.



a	Sound Board Depth	0...100	Sets the intensity of resonance of the sound board	
b	Damper Depth	0...100	Sets the intensity of the string resonance created when the damper pedal is pressed	
	Src	Off...Tempo	Selects the modulation source of damper effect	
c	Tone	1...100	Sets tonal quality of effect sound	
d	Mid Shape	0...36	Sets the mid range of tonal quality	
e	Tune	–50...+50	Fine tuning	
f	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Sound Board Depth

This parameter sets the intensity of resonance of the piano sound board.

b: Damper Depth
b: Src

This parameter sets the resonance intensity of the other strings created when the damper pedal is pressed. The "Src" parameter selects the modulation source from which the damper effect is applied. Usually, select Damper #64 Pdl (Damper pedal).

MIDI The effect is off when a value for the modulation source specified for the "Src" parameter is 63 or smaller, and the effect is on when the value is 64 or higher.

c: Tone
d: Mid Shape

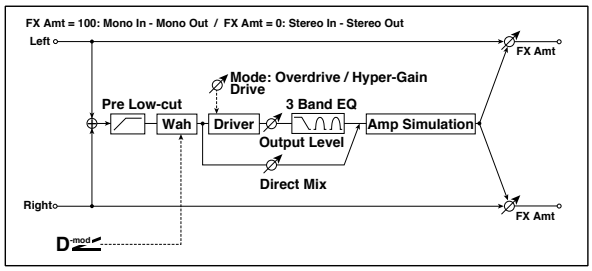
These parameters control the tonal quality of the effect sound.

e: Tune

Since this effect simulates the resonance of the strings, the sound varies depending on the pitch. If you have changed tuning using the "Master Tuning" (Global > General Controls > Basic), adjust this parameter value.

122: OD/HyperGain Wah (Overdrive/Hyper Gain Wah)

This distortion effect has two modes: overdrive and hyper-gain that produces a strong distortion. A higher high-gain setting is required for this effect relative to a normal-size effect.

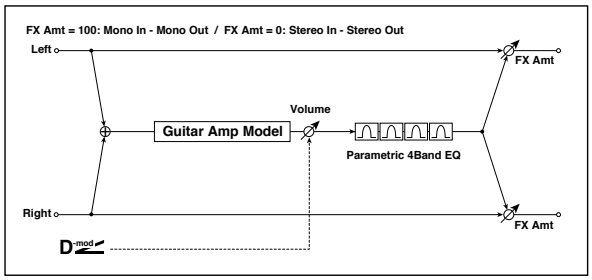


a	Wah	Off, On	Switches Wah on/off	
	Src	Off...Tempo	Selects the modulation source that switches the Wah on and off	
	Sw	Toggle, Moment	Selects the switching mode for the modulation source that switches the Wah on and off	
b	Wah Sweep Range	–10...+10	Sets the range of Wah	
	Wah Sweep Src	Off...Tempo	Selects the modulation source that controls the Wah	
c	Drive Mode	Overdrive, Hyper-Gain	Switches between overdrive and hi-gain distortion	
d	Drive	1...120	Sets the degree of distortion	
	Pre Low-cut	0...10	Sets the low range cut amount of the distortion input	
e	Output Level	0...50	Sets the output level	
	Src	Off...Tempo	Selects the modulation source for the output level	
	Amt	–50...+50	Sets the modulation amount of the output level	
f	Low Cutoff [Hz]	20...1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	–18...+18	Sets the gain of Low EQ	
g	Mid1 Cutoff [Hz]	300...10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 1	
h	Mid2 Cutoff [Hz]	500...20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)	
	Q	0.5...10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	–18...+18	Sets the gain of Mid/High EQ 2	
i	Direct Mix	0...50	Sets the amount of the dry sound mixed to the distortion	
	Speaker Simulation	Off, On	Switches the speaker simulation on/off	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

123: GuitarAmp + P4EQ (Guitar Amp Model + Parametric 4-Band EQ)

This combines a guitar amp simulation (which even faithfully replicates the distortion and tone control circuitry) with a four-band equalizer.

By using this in conjunction with “St. Guitar Cabinet (Stereo Guitar Cabinet)” on page 119, you can obtain an even more realistic guitar sound that simulates a guitar amp + speaker cabinet.



a	Amp Type	VOX AC15, VOX AC15TB, VOX AC30, VOX AC30TB, UK BLUES, UK 70'S, UK 80'S, UK 90'S, UK MODERN, US MODERN, US HIGAIN, BOUTIQUE OD, BOUTIQUE CL, BLACK 2x12, TWEED - 1x12, TWEED - 4x10	Selects the type of the amplifier	
	Drive Gain	0...100	Sets the input gain	
b	Volume	0...100	Sets the output level	
	Src	Off...Tempo	Selects the modulation source for the output level	
	Amt	–100...+100	Sets the modulation amount of the output level	
c	Bass	0...100	Sets the bass (low range) level	
	Middle	0...100	Sets the middle (mid range) level	
d	Treble	0...100	Sets the treble (high range) level	
	Presence	0...100	Sets the presence (high-frequency tone)	
e	Post P4EQ	Thru, On	Selects through or on for the equalizer	
e	Band1 Cutoff [Hz]	20...1.00k	Sets the center frequency of Band 1	
	Q	0.5...10.0	Sets Band 1's bandwidth	
	Gain [dB]	–18...+18	Sets the gain of Band 1	
f	Band2 Cutoff [Hz]	50...5.00k	Sets the center frequency of Band 2	
	Q	0.5...10.0	Sets Band 2's bandwidth	
	Gain [dB]	–18...+18	Sets the gain of Band 2	
g	Band3 Cutoff [Hz]	300...10.00k	Sets the center frequency of Band 3	
	Q	0.5...10.0	Sets Band 3's bandwidth	
	Gain [dB]	–18...+18	Sets the gain of Band 3	
h	Band4 Cutoff [Hz]	500...20.00k	Sets the center frequency of Band 4	
	Q	0.5...10.0	Sets Band 4's bandwidth	
	Gain [dB]	–18...+18	Sets the gain of Band 4	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Amp Type
d: Presence

If the Amp Type is VOX AC15...VOX AC30TB, this sets the attenuation of the high-frequency range. For other types, this sets the boost of the high-frequency range.

This corresponds to the Cut knob control of amps made by the VOX Corporation.

e: Post P4EQ

By chaining this with 19: St.Guitar Cabinet you can simulate the combination of a guitar amp and speaker cabinet. In this case, we recommend that you set Post P4EQ to "Thru," but if necessary you can turn it "On" and adjust the tone.

Recommended Combinations of Guitar Amp Models and Cabinet Simulators:

Amp Type	Cabinet Type
VOX AC15	VOX AC15 - 1x12
VOX AC15TB	VOX AC15 - 1x12
VOX AC30	VOX AC30 - 2x12
VOX AC30TB	VOX AC30 - 2x12
UK BLUES	UK H30 - 4x12
UK 70'S	UK H30 - 4x12
UK 80'S	UK T75 - 4x12
UK 90'S	UK T75 - 4x12
UK MODERN	UK T75 - 4x12, US V30 - 4x12
US MODERN	US V30 - 4x12
US HIGAIN	US V30 - 4x12, UK T75 - 4x12
BOUTIQUE OD	UK H30 - 4x12
BOUTIQUE CL	UK H30 - 4x12
BLACK 2x12	BLACK - 2x12
TWEED - 1x12	TWEED - 1x12
TWEED - 4x10	TWEED - 4x10

124: Amp Clean Combo

This models the clean channel of a amp that went on sale in 1975 and contained two 12" speakers. As the name suggests, it produces a clean tone with a tight sounding character, and a deep and compact low-end.

125: Amp California

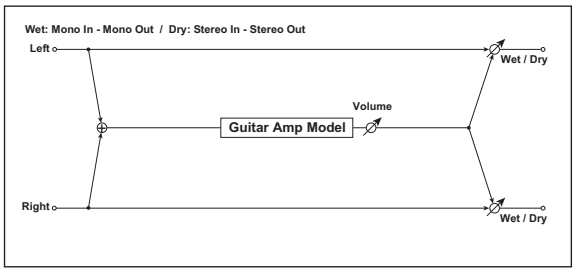
This American combo amp with four 10" speakers was produced during the years 1963–1968, and was known for its big, clean sound and its warm and husky sound when driven heavily.

126: Amp Tweed

This American-made tweed-covered 1957 model combo amp with two 12" speakers is known for its rich, clean tone that is ideal for classic rock, blues, and country. By raising the volume you can also produce a powerful and punchy overdrive sound.

127: Amp Modded OD

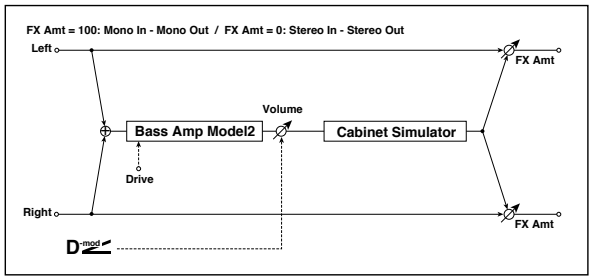
This models a 100W boutique amp head produced in North Hollywood. An overdrive tone with a rich harmonic structure is combined with a relaxed sustain, making for an enjoyable playing experience.



Drive	0...100	Sets the input gain	
Volume	0...100	Sets the output level	
Bass	0...100	Sets the bass (low range) level	
Middle	0...100	Sets the middle (mid range) level	
Treble	0...100	Sets the treble (high range) level	
Presence	0...100	Sets the presence (high-frequency tone)	
Wet/Dry	Dry, 1 : 99...99 : 1, Wet	Balance between the wet and dry signal	D-mod
Source	Off...Tempo	Table , "Selects a modulation source for Wet/Dry," on page 107	
Amount	–100...+100	Table , "Sets the modulation amount for Wet/Dry," on page 107	

128: BassTubeAmp+Cab. (Bass Tube Amp Model + Cabinet)

This simulates a bass amp (with gain and drive) and speaker cabinet.



a	Amp Type	STUDIO COMBO VOX AC100 UK MAJOR	Selects the type of the amplifier A tube combo ideal for the Motown sound A 100W tube amp AC100 made by Vox A 200W tube amp made in the UK	
b	Drive Gain	0...100	Sets the input gain	
c	Volume	0...100	Sets the output level	
	Src	Off...Tempo	Selects the modulation source for the output level	
	Amt	–100...+100	Sets the modulation amount of the output level	
d	Bass	0...100	Sets the bass (low range) level	
e	Middle	0...100	Sets the middle (mid range) level	
f	Treble	0...100	Sets the treble (high range) level	
g	Presence	0...100	Sets the presence (high-frequency tone)	
h	Cabinet Simulator	Off, On	Switches the cabinet simulator on/off	
i	Cabinet Type	LA - 4x10, MODERN - 4x10, METAL - 4x10, CLASSIC -8x10, UK - 4x12, STUDIO - 1x15, JAZZ - 1x15, VOX AC100 - 2x15, US - 2x15, UK - 4x15, LA - 1x18, COMBI - 1x12 & 1x18	Selects the cabinet type	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

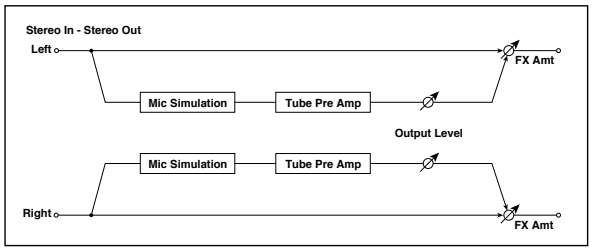
a: Amp Type
i: Cabinet Type

Recommended Combinations of Bass Amp Models and Cabinets:

Amp Type	Cabinet Type
STUDIO COMBO	STUDIO - 1x15
AC100	VOX AC100 - 2x15
UK MAJOR	UK - 4x15, UK - 4x12

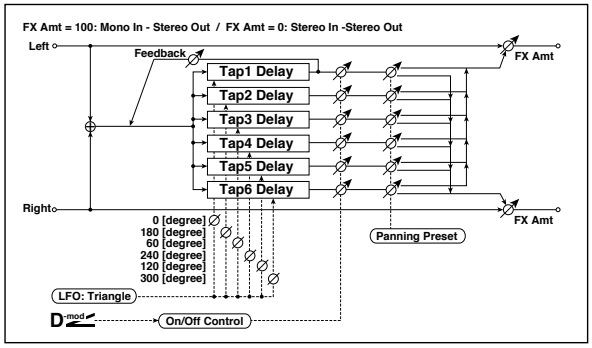
129: St. Mic + PreAmp (Stereo Mic Modeling + PreAmp)

This is a stereo mic and preamp simulator (See "Mic Model+Pre-Amp (Mic Modeling + PreAmp)" on page 122.). For example you might use this to simulate micing of a stereo source such as a rotary speaker.



130: Multitap Cho/Delay (Multitap Chorus/Delay)

This effect has six chorus blocks with different LFO phases. You can produce a complex stereo image by setting a different delay time and depth for each block. You can control the delay output level via a modulation source.



a	LFO Frequency [Hz]	0.02...13.00	Sets the speed of the LFO	
b	Tap1 (000) [msec]	0...2000	Sets the Tap1 (LFO phase=0 degrees) delay time	
	Depth	0...30	Sets the Tap1 chorus depth	
	Status	Always On, Always Off, On Off (Dm), Off On (Dm)	Selects on, off, or modulation source for the control of Tap1 output	
c	Tap2 (180) [msec]	0...2000	Sets the Tap2 (LFO phase=180 degrees) delay time	
	Depth	0...30	Sets the Tap2 chorus depth	
	Status	Always On, Always Off, On Off (Dm), Off On (Dm)	Selects on, off, or modulation source for the control of Tap2 output	
d	Tap3 (060) [msec]	0...2000	Sets the Tap3 (LFO phase=60 degrees) delay time	
	Depth	0...30	Sets the Tap3 chorus depth	
	Status	Always On, Always Off, On Off (Dm), Off On (Dm)	Selects on, off, or modulation source for the control of Tap3 output	
e	Tap4 (240) [msec]	0...2000	Sets the Tap4 (LFO phase=240 degrees) delay time	
	Depth	0...30	Sets the Tap4 chorus depth	
	Status	Always On, Always Off, On Off (Dm), Off On (Dm)	Selects on, off, or modulation source for the control of Tap4 output	
f	Tap5 (120) [msec]	0...2000	Sets the Tap5 (LFO phase=120 degrees) delay time	
	Depth	0...30	Sets the Tap5 chorus depth	
	Status	Always On, Always Off, On Off (Dm), Off On (Dm)	Selects on, off, or modulation source for the control of Tap5 output	

g	Tap6 (300) [msec]	0...2000	Sets the Tap1 (LFO phase=300 degrees) delay time	
	Depth	0...30	Sets the Tap6 chorus depth	
	Status	Always On, Always Off, On Off (Dm), Off On (Dm)	Selects on, off, or modulation source for the control of Tap6 output	
h	Panning Preset	1:L1 2 3 4 5 6 R, 2:L 1 3 5 2 4 6 R, 3:L1 3 5 2 4 6 R, 4:L1 4 5 6 3 2 R	Selects the stereo panning pattern for each tap	
i	Tap1 Feedback	–100...+100	Sets the Tap1 feedback amount	
	Src	Off...Tempo	Selects the modulation source for the Tap output level, feedback amount, and effect balance	
	Amt	–100...+100	Sets the modulation amount of Tap1 feedback amount	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

b, c, d, e, f, g: Status

These parameters set the output status of each Tap.

Always On: Output is always on. (No modulation)

Always Off: Output is always off. (No modulation)

Onç Off (dm): Output level is switched from on to off depending on the modulation source.

Offç On (dm): Output level is switched from off to on depending on the modulation source.

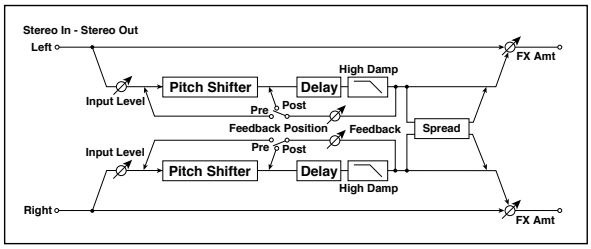
Combining these parameters, you can change from 4-phase chorus to two-tap delay by crossfading them gradually via the modulation source during a performance.

h: Panning Preset

This parameter selects combinations of stereo images of the tap outputs.

131: St. Pitch Shifter (Stereo Pitch Shifter)

This is a stereo pitch shifter. The pitch shift amount for the left and right channels can be reversed from each other.



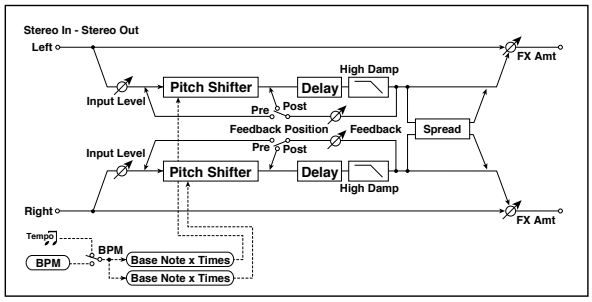
a	Mode	Slow, Medium, Fast	Switches Pitch Shifter mode	
	L/R Pitch	Normal, Up/Down	Determines whether or not the L/R pitch shift amount is inverted	
b	Pitch Shift [1/2tone]	–24...+24	Sets the pitch shift amount in steps of a semitone	
	Src	Off...Tempo	Selects the modulation source of pitch shift amount	
	Amt	–24...+24	Sets the modulation amount of pitch shift amount	
c	Fine [cents]	–100...+100	Sets the pitch shift amount in steps of one cent	
	Amt	–100...+100	Sets the modulation amount of pitch shift amount	
d	L Delay [msec]	0...2000	Sets the delay time for the left channel	
e	R Delay [msec]	0...2000	Sets the delay time for the right channel	
f	Feedback	–100...+100	Sets the feedback amount	
	High Damp [%]	0...100	Sets the damping amount in the high range	
g	Feedback Position	Pre, Post	Switches the feedback connection	
	Spread	–100...+100	Sets the width of the stereo image of the effect sound	
h	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: L/R Pitch

When you select Up/Down for this parameter, the pitch shift amount for the right channel will be reversed. If the pitch shift amount is positive, the pitch of the left channel is raised, and the pitch of the right channel is lowered.

132: St. PitchShift BPM (Stereo Pitch Shifter BPM)

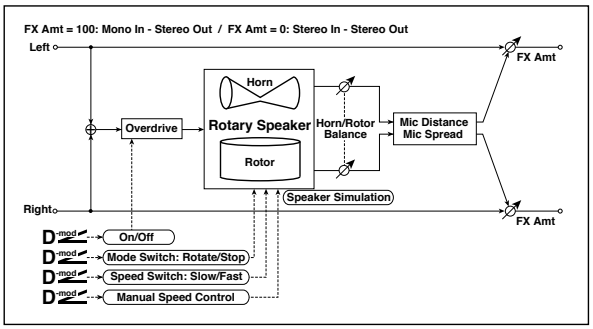
This stereo pitch shifter enables you to set the delay time to match the song tempo.



a	Mode	Slow, Medium, Fast	Switches Pitch Shifter mode	
	L/R Pitch	Normal, Up/Down	Determines whether or not the L/R pitch shift amount is inverted	
b	Pitch Shift [1/2tone]	–24...+24	Sets the pitch shift amount in steps of a semitone	
	Src	Off...Tempo	Selects the modulation source of pitch shift amount	
	Amt	–24...+24	Sets the modulation amount of pitch shift amount	
c	Fine [cents]	–100...+100	Sets the pitch shift amount in steps of one cent	
	Amt	–100...+100	Sets the modulation amount of pitch shift amount Sets the modulation amount of pitch shift amount	
d	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over? L	---, OVER!	Display the error message if the left channel delay time exceeds the upper limit	
	R	---, OVER!	Display the error message if the right channel delay time exceeds the upper limit	
e	L Delay Base Note	r...w	Selects the type of notes to specify the left channel delay time	Sync
	Times	x1...x32	Sets the number of notes to specify the left channel delay time	
f	R Delay Base Note	r...w	Selects the type of notes to specify the right channel delay time	Sync
	Times	x1...x32	Sets the number of notes to specify the right channel delay time	
g	Feedback Position	Pre, Post	Switches the feedback connection	
	Spread	–100...+100	Sets the width of the stereo image of the effect sound	
h	Feedback	–100...+100	Sets the feedback amount	
	High Damp [%]	0...100	Sets the damping amount in the high range	
i	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

133: Rotary SpeakerOD (Rotary Speaker Overdrive)

This is a stereo rotary speaker effect. It has an internal speaker simulator that simulates overdrive (recreating the amp distortion) and characteristics of the rotary speaker, producing a very realistic rotary speaker sound.



a	Overdrive	Off, On	Switches overdrive on/off	
	Src	Off...Tempo	Selects a modulation source to switch overdrive on/off	
	Sw	Toggle, Moment	Sets the switch mode for overdrive on/off modulation	
b	Overdrive Gain	0...100	Determines the degree of distortion	
	Overdrive Level	0...100	Sets the overdrive output level	
C	Overdrive Tone	0...15	Sets the tonal quality of the overdrive	
	Speaker Simulator	Off, On	Switches the speaker simulation on/off	
d	Mode Switch	Rotate, Stop	Switches between speaker rotation and stop	
	Src	Off...Tempo	Selects a modulation source for Rotate/Stop	
	Sw	Toggle, Moment	Sets the switch mode for Rotate/Stop modulation	
e	Speed Switch	Slow, Fast	Switches the speaker rotation speed between slow and fast	
	Src	Off...Tempo	Selects a modulation source for Slow/Fast	
	Sw	Toggle, Moment	Sets the switch mode for Slow/Fast modulation	
f	Horn/Rotor Balance	Rotor, 1...99, Horn	Sets the volume balance between the high-range horn and low-range rotor	
	Manual SpeedCtrl	Off...Tempo	Sets a modulation source for direct control of rotation speed	
g	Horn Acceleration	0...100	Sets how quickly the horn rotation speed changes	
	Horn Ratio	Stop, 0.50...2.00	Adjusts the (high-frequency) horn rotation speed. Standard value is 1.00. “Stop” stops the rotation	
h	Rotor Acceleration	0...100	Sets how quickly the rotor speed changes	
	Rotor Ratio	Stop, 0.50...2.00	Adjusts the (low-frequency) rotor rotation speed. Standard value is 1.0. “Stop” stops the rotation	
i	Mic Distance	0...100	Distance between the microphone and rotary speaker	
	Mic Spread	0...100	Angle of left and right microphones	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Sw

This parameter determines how to switch on/off the overdrive via a modulation source.

When "Sw" = Toggle, overdrive is turned on/off each time the pedal or joystick is operated.

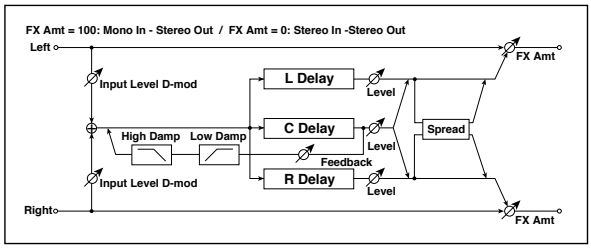
MIDI Overdrive will be switched on/off each time the value of the modulation source exceeds 64.

When "Sw" = Moment, overdrive is applied only when you press the pedal or operate the joystick.

MIDI Only when the value for the modulation source is 64 or higher, the overdrive effect is applied.

134: L/C/R Long Delay

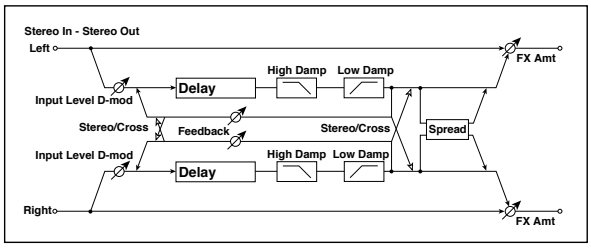
This multitap delay outputs three Tap signals to left, right and center respectively. You can set a maximum of 5,460msec for the delay time.



a	L Delay Time [msec]	0...5460	Sets the delay time of TapL	
	Level	0...50	Sets the output level of TapL	
b	C Delay Time [msec]	0...5460	Sets the delay time of TapC	
	Level	0...50	Sets the output level of TapC	
c	R Delay Time [msec]	0...5460	Sets the delay time of TapR	
	Level	0...50	Sets the output level of TapR	
d	Feedback (C Delay)	–100...+100	Sets the feedback amount of TapC	
	Src	Off...Tempo	Selects the modulation source for the TapC feedback	
	Amt	–100...+100	Sets the modulation amount of the TapC feedback	
e	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
f	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
g	Spread	0...50	Sets the width of the stereo image of the effect sound	
h	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

135: St/Cross Long Delay (Stereo/Cross Long Delay)

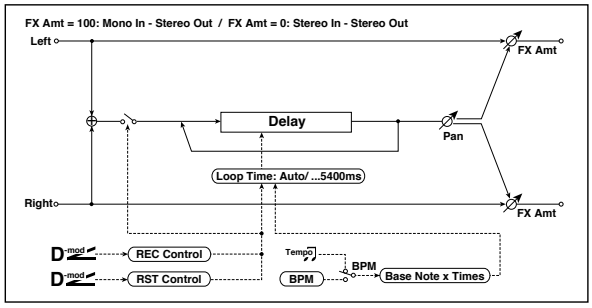
This is a stereo delay, and can by used as a cross-feedback delay effect in which the delay sounds cross over between left and right by changing the feedback routing. You can set a maximum of 2,730msec for the delay time.



a	Stereo/Cross	Stereo, Cross	Switches between stereo delay and cross-feedback delay	
b	L Delay Time [msec]	0.0...2730.0	Sets the delay time for the left channel	
c	R Delay Time [msec]	0.0...2730.0	Sets the delay time for the right channel	
d	L Feedback	–100...+100	Sets the feedback amount for the left channel	
	Src	Off...Tempo	Selects the modulation source of feedback amount	
	Amt	–100...+100	Sets the modulation amount of the left channel feedback	
e	R Feedback	–100...+100	Sets the feedback amount for the right channel	
	Amt	–100...+100	Sets the modulation amount of the right channel feedback	
f	High Damp [%]	0...100	Sets the damping amount in the high range	
g	Low Damp [%]	0...100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
i	Spread	–50...+50	Sets the width of the stereo image of the effect sound	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

136: Hold Delay

This effect records the input signal and plays it back repeatedly. You can control the start of recording and reset via a modulation source. Easy to use for real-time performances.



a	Loop Time [msec]	Auto, 1...10800	Sets Automatic loop time setup mode or specifies loop time	
b	Loop BPM Sync	Off, On	Specifies whether delay time is set in milliseconds, or as a note value relative to tempo	Sync
c	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Time Over?	---, OVER!	An error indication that appears if delay time exceeds the upper limit when MIDI/Tempo Sync=On	
d	Loop Base Note	r...w	Selects the type of notes to specify the delay time	
	Times	x1...x32	Sets the number of notes to specify the delay time	
e	REC Control Src	Off...Tempo	Selects control source for recording	
f	RST Control Src	Off...Tempo	Selects control source for reset	
g	Manual REC Control	REC Off, REC On	Sets the recording switch	
h	Manual RST Control	Off, RESET	Sets the reset switch	
i	Pan	L100...L1, C, R1...R100	Sets the stereo image of the effect	
	Src	Off...Tempo	Selects the modulation source of stereo image of the effect	
	Amt	–100...+100	Sets the modulation amount of stereo image of the effect	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Loop Time [msec]

With Auto, the loop time is automatically set. Otherwise, you can specify the loop time.

When Auto is selected, the Loop Time is automatically set to the time it takes for a performance recorded while the Modulation Source or “Manual REC Control” is on. However, if the time length exceeds 10,800msec, the loop time will be automatically set to 10,800msec.

c: Time Over?

You can set the delay time up to 10,800msec. If the delay time exceeds this limit, the error message “OVER!” appears in the display. Set the delay time parameters so that this message will not appear. “Time Over?” is only a display parameter.

b: Loop BPM Sync
c: BPM
d: Loop Base Note
d: Times

If “Loop BPM Sync” is on, the “Times” setting is ignored; the loop time is determined by “BPM,” “Loop Base Note,” and “Times.” Even in this case, the delay time cannot exceed 10,800 msec.

“Hold” procedure (when Loop Time = Auto)

1. “Rec Src”JS +Y: #01
   “Reset Src”JS –Y: #02
   “Manual REC Control”REC Off
   “Manual RST Control”RESET
   “Loop Time [msec]”Auto
   “MIDI/Tempo Sync”Off
   It should be noted that all recordings will be deleted while Reset is On.
2. “Manual RST Control”Off
   Reset is cancelled and the unit enters Rec ready mode.
3. Push the joystick in the +Y direction (forward) and play a phrase you wish to hold. When you pull the joystick to its original position, the recording will be finished and the phrase you just played will be held.

   Loop Time is automatically set only for the first recording after resetting. If the time length exceeds 10,800msec, Loop Time will be automatically set to 10,800msec. (If you have set “Times” to 1–10,800msec, the specified loop time will be used regardless of the time taken from pushing the joystick forward until it is pulled back. However, the recording method remains the same. The phrase being played while the joystick is pushed forward will be held.)
4. If you made a mistake during recording, pull the joystick in the –Y direction (back) to reset. In this way, the recording will be erased. Repeat step 4. again.
5. The recorded phrase will be repeated again and again. You can use this to create an accompaniment.
6. By pushing the joystick in the +Y direction (forward), you can also overdub performances over the phrase that is being held.

e: REC Control Src
g: Manual REC Control

“REC Control Src” selects the modulation source that controls recording.

If this modulation is on, or if “Manual REC Control” is set to On, you can record the input signal. If a recording has already been carried out, additional signals will be overdubbed.

MIDI The effect is off when a value for the modulation source specified for the “REC Control Src” parameter is 63 or smaller, and the effect is on when the value is 64 or higher.

f: RST Control Src
h: Manual RST Control

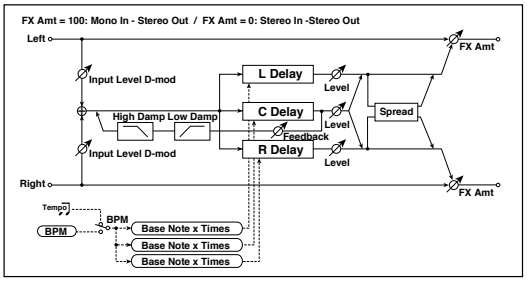
The “RST Control Src” parameter specifies the modulation source that controls the reset operation.

When you set this modulation source to On, or “Manual RST Control” to RESET, you can erase what you recorded. If the Loop Time parameter has been set to Auto, the loop time is also reset.

MIDI The effect is off when a value for the modulation source specified for the "RST Control Src" parameter is 63 or smaller, and the effect is on when the value is 64 or higher.

137: LCR BPM Long Dly

The L/C/R delay enables you to match the delay time with the song tempo.



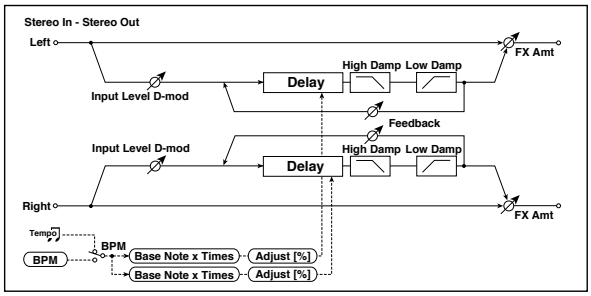
a	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over?	---, OVER!	Displays an error message when the delay time exceeds the upper limit	
b	L Delay Base Note	r...w	Selects the type of notes to specify the delay time for TapL	Sync
	Times	x1...x32	Sets the number of notes to specify the delay time for TapL	
	Level	0...50	Sets the output level of TapL	
c	C Delay Base Note	r...w	elects the type of notes to specify the delay time for TapC	Sync
	Times	x1...x32	Sets the number of notes to specify the delay time for TapC	
	Level	0...50	Sets the output level of TapC	
d	R Delay Base Note	r...w	Selects the type of notes to specify the delay time for TapR	Sync
	Times	x1...x32	Sets the number of notes to specify the delay time for TapR	
	Level	0...50	Sets the output level of TapR	
e	Feedback (C Delay)	–100...+100	Sets the feedback amount of TapC	
	Src	Off...Tempo	Selects the modulation source for the TapC feedback	
	Amt	–100...+100	Sets the modulation amount of the TapC feedback	
f	High Damp [%]	0...100	Sets the damping amount in the high range	
	Low Damp [%]	0...100	Sets the damping amount in the low range	
g	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
h	Spread	0...50	Sets the width of the stereo image of the effect sound	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Time Over?

You can set the delay time up to 10,920msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

138: St. BPM Long Dly (Stereo BPM Long Delay)

The stereo delay enables you to match the delay time with the song tempo.



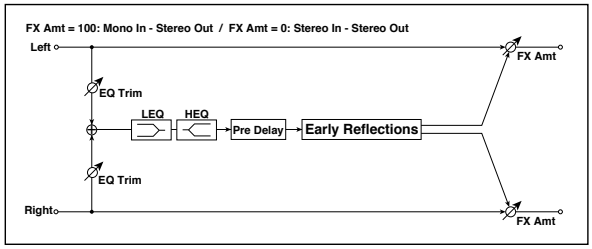
a	BPM	MIDI, 40.00... 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over? L	---, OVER!	Display the error message if the left channel delay time exceeds the upper limit	
	R	---, OVER!	Display the error message if the right channel delay time exceeds the upper limit	
b	L Delay Base Note	r...w	Selects the type of notes to specify the left channel delay time	Sync
	Times	x1...x32	Sets the number of notes to specify the left channel delay time	
	Adjust [%]	–2.50...+2.50	Fine-adjust the left channel delay time	
c	R Delay Base Note	r...w	Selects the type of notes to specify the right channel delay time	Sync
	Times	x1...x32	Sets the number of notes to specify the right channel delay time	
	Adjust [%]	–2.50...+2.50	Fine-adjust the right channel delay time	
d	L Feedback	–100...+100	Sets the feedback amount for the left channel	
	Src	Off...Tempo	Selects the modulation source of feedback amount	
	L Amt	–100...+100	Sets the modulation amount of the left channel feedback	
e	R Feedback	–100...+100	Sets the feedback amount for the right channel	
	R Amt	–100...+100	Sets the modulation amount of the right channel feedback	
f	High Damp [%]	0...100	Sets the damping amount in the high range	
g	Low Damp [%]	0...100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	–100...+100	Sets the modulation amount of the input level	
	Src	Off...Tempo	Selects the modulation source for the input level	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , "Dynamic Modulation sources," on page 106	
	Amt	–100...+100	Amount of modulation source	

a: Time Over? L, R

You can set the delay time up to 5,460msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

139: Early Reflections

This early reflection effect has more precise early reflections with twice the maximum length of a normal-size effect (See “Early Reflections” on page 153.). You can create a very smooth and dense sound.



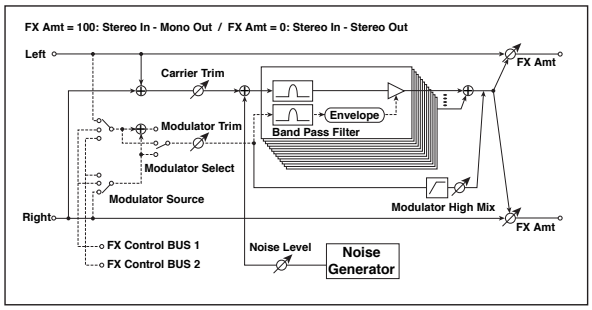
a	Type	Sharp, Loose, Modulated, Reverse	Selects the decay curve for the early reflection	
b	ER Time [msec]	10...1600	Sets the time length of early reflection	
c	Pre Delay [msec]	0...200	Sets the time taken from the original sound to the first early reflection	
d	EQ Trim	0...100	Sets the input level of EQ applied to the effect sound	
e	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
f	Pre LEQ Gain [dB]	–15.0...+15.0	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15.0...+15.0	Sets the gain of High EQ	
g	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

Vocoder

The Vocoder can only be assigned to the FX B - Master 2 processor (usually, the modulating effect for the keyboard tracks). When this effect is selected, the microphone input no longer goes to the Voice Processor, but is routed to this FX processor.

140: Vocoder

This effect applies the timbral character of a different signal (the modulator) to the input signal (the carrier).
A common use of this effect is to produce the sound of various instruments by inputting a voice to the Modulator via a microphone. A special effect is also achieved by using rhythm or effect sounds. Strings or distortion guitar sounds with a lot of harmonics are suitable as Carrier signals.



a	Carrier Trim	0...100	Sets the Carrier input level	
b	Modulator Trim	0...100	Sets the Modulator input level	
c	Modulator Source	Input, Audio In 1, Audio In 2	Selects the modulator input	
d	Modulater Select	L/R Mix, L Only, R Only	Selects whether to use the left/right mix, only left, or only right of the modulator input	
e	Formant Shift	–2...+2	Sets the height of the frequency for the vocoder effect	
f	Response	0...100	Sets the speed of the response to the modulator input	
g	Noise Level	0...100	Sets the noise mix level to the Carrier	
	Src	Off...Tempo	Selects the modulation source for the noise mix level	
	Amt	–100...+100	Sets the modulation amount for the noise mix level	
h	Modulator High Mix	0...100	Sets the high-range output level of the modulator	
i	Low Gain [dB]	–12...+12	Sets the low-range output level of the vocoder	
	High Gain [dB]	–12...+12	Sets the high-range output level of the vocoder	
j	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	Table , “Dynamic Modulation sources,” on page 106	
	Amt	–100...+100	Amount of modulation source	

e: Formant Shift

By offsetting the Carrier filter, you can adjust the height of the frequency range to which the vocoder effect is applied. The tonal quality will change significantly.

g: Noise Level

This parameter enables you to mix white noise with the Carrier.

h: Modulator High Mix

This parameter sets the high-range output level of the modulator sound. If the modulator is a human voice, it will make the words more clear.

Using the vocoder with microphone input

When programming the Vocoder, you can start from one of the specially programmed "Vocoder" Performances (in the Synth Pad bank, Page 3) as templates.

To use a voice from a microphone as a modulator:

1. Connect a microphone to the Mic Input.
2. Set "Modulator Source" to Audio In 1.
3. Speak into the microphone while you use the GAIN knob to adjust the level as high as possible without allowing distortion to occur.

With these settings, the sound from the microphone will be used as the modulator. While you play, speak into the mic; it will sound as though the instrument is talking.

If the effect sound is distorted, adjust the "Carrier Trim" and "Modulator Trim."

Note: *Please remember to set the Carrier track's "Dry" parameter to Off, and the Send value to 127.*

You can add reverb to the Vocoder, by way of the "to MFX1" parameter.

Hint: *To create a new Song making use of the Vocoder, enter the Sequencer-Backing Sequence mode with a Performance that includes the Vocoder effect.*

Factory data

Styles

Note: You can remotely select Styles on the Pa3X, by sending it Bank Select MSB (CC#0), Bank Select LSB (CC#32) and Program Change messages on the Control channel (see "MIDI: MIDI In Channels" on page 211 of the User's Manual).

#	CC0	CC32	PC	Name
Bank: Pop				
1	0	0	0	70's Guitar Pop
2			1	Classic Pop
3			2	Standard 8 Beat
4			3	Standard 16 Beat
5			4	Shadow Pop
6			5	Pop Rock
7			6	Vintage Pop 1
8			7	Vintage Pop 2
9			8	Retro Beat
10			9	Pop Evergreen
11			10	Easy Pop 1
12			11	Easy Pop 2
13			12	Pop Shuffle 1
14			13	Pop Shuffle 2
15			14	Pop Shuffle 3
16			15	Guitar Pop
17			16	Pop Ska
18			17	British Pop
19			18	Slow Latin Pop
20			19	Modern Beat
21			20	Slow Pop 6/8
22			21	Pop 12/8
23			22	Pop Chart 1
24			23	Pop Chart 2
25			24	Pop Groove
26			25	Kool Beat
27			26	Easy Beat 1
28			27	Easy Beat 2
29			28	Real 8 Beat
30			29	Real 16 Beat
31			30	Soft 8 Beat
32			31	Soft 16 Beat
33			32	Analog Beat 1
34			33	Analog Beat 2
35			34	8 Beat Analog 1
36			35	8 Beat Analog 2
37			36	Guitar Beat
38			37	Vocal Pop
39			38	Pop Funk
Bank: Ballad				
1	0	1	0	Soft Ballad 1
2			1	Soft Ballad 2
3			2	Orchestral Bld 1
4			3	Orchestral Bld 2
5			4	Piano Ballad
6			5	Guitar Ballad
7			6	Organ Ballad
8			7	Moonlight Ballad
9			8	Modern Ballad 1
10			9	Modern Ballad 2
11			10	Ambient Ballad
12			11	Funky Ballad
13			12	Analog Ballad 1
14			13	Analog Ballad 2
15			14	Jazzy Ballad
16			15	Easy Ballad
17			16	6/8 Ballad 1
18			17	6/8 Ballad 2
19			18	6/8 Brush Bld
20			19	Slow 6/8
21			20	Rock Ballad 1
22			21	Rock Ballad 2
23			22	Pop Ballad 1
24			23	Pop Ballad 2
25			24	Blues Ballad
26			25	Folk Ballad
27			26	Waltz Ballad
28			27	Oriental Ballad
29			28	Groove Ballad
30			29	Blue Ballad
Bank: Ballroom				
1	0	2	0	Slow 12/8
2			1	Quick Step
3			2	Pasodoble
4			3	Paso Dance
5			4	Jive 1
6			5	Jive 2
7			6	Argentina Tango
8			7	Modern Tango
9			8	Slow Waltz 1
10			9	Slow Waltz 2
11			10	Slow Waltz 3
12			11	Organ Waltz
13			12	Slow Fox
14			13	Organ Foxtrot
15			14	Foxtrot 1
16			15	Foxtrot 2

#	CC0	CC32	PC	Name
17			16	Slow Band
18			17	Big Band Jump
19			18	Big Band Fox
20			19	Big Band 40's
21			20	Fox Shuffle 1
22			21	Fox Shuffle 2
23			22	Italian Tango 1
24			23	Italian Tango 2
25			24	Easy Listening
26			25	Twist
27			26	Hully Gully
28			27	50's Fox
29			28	Italian Fox
30			29	Irish Fox
Bank: Dance				
1	0	3	0	70's Disco Remix
2			1	70's Disco 1
3			2	70's Disco 2
4			3	80's Dance
5			4	90's Dance
6			5	Electro Dance
7			6	Dance Chart 1
8			7	Dance Chart 2
9			8	Funky Disco 1
10			9	Funky Disco 2
11			10	Techno
12			11	Garage
13			12	House
14			13	Electro House
15			14	Ethno House
16			15	Drum&Bass
17			16	Tribal
18			17	Club House
19			18	Euro Trance
20			19	Fashion Funk
21			20	Dance Fever
22			21	Barry Dance
23			22	Sister & Girl
24			23	Philly Disco
25			24	Miami Disco
26			25	Love Disco
27			26	Dance Motown
28			27	Dance Mix
29			28	Soca Dancing
30			29	Disco Gully
31			30	Disco Latin
32			31	Oriental Dance
33			32	Groove It Up
34			33	HipHop
Bank: Rock				
1	0	4	0	80's Rock
2			1	Rock Punch

#	CC0	CC32	PC	Name
3			2	Classic Rock
4			3	Rolling Blues
5			4	50's R&Roll
6			5	60's R&Roll
7			6	Rock Boogie
8			7	Rock Blues
9			8	Power Rock
10			9	English Rock
11			10	Rock & Roll
12			11	Hard Rock
13			12	Open Rock 1
14			13	Open Rock 2
15			14	Heavy Rock
16			15	Funky Rock
17			16	Rock Oldie
18			17	Fire Rock
19			18	South Shuffle
20			19	Surf Rock
21			20	Rock Cha Cha
22			21	Slow Latin Rock
23			22	Latin Rock 1
24			23	Latin Rock 2
25			24	Slow Rock 1
26			25	Slow Rock 2
27			26	60's Slow Rock
28			27	Rock 6/8
29			28	Steely Rock
30			29	Abbey Rock
31			30	SouthStrait Rock
32			31	Blues Shuffle
Bank: Unplugged				
1	0	5	0	Unplugged Heaven
2			1	Acoustic Rock
3			2	Sally Groove
4			3	Unplugged Reggae
5			4	UnpluggedBallad1
6			5	UnpluggedBallad2
7			6	UnpluggedBallad3
8			7	UnpluggedBallad4
9			8	Easy Strumming
10			9	Unplugged Slow
11			10	Desert Shuffle
12			11	Serenade
13			12	Unplugged Gtr 1
14			13	Unplugged Gtr 2
15			14	Unplugged Gtr 3
16			15	Unplugged Gtr 4
17			16	Unplugged
18			17	Meditando
19			18	Unplugged 8 Bt
20			19	Unplugged 16 Bt
21			20	Unplugged Rock
22			21	Unplugged Latin

#	CC0	CC32	PC	Name
23			22	Unplugged Swing
24			23	Unplugged 3/4
25			24	Acoustic Bld.3/4
Bank: Country				
1	0	6	0	Easy Country
2			1	Country Blues
3			2	Slow Country
4			3	West Coast
5			4	Country Hit
6			5	Finger Pickin
7			6	Country Strum
8			7	Country QuikStep
9			8	Country Beat 1
10			9	Country Beat 2
11			10	Country Ballad 1
12			11	Country Ballad 2
13			12	Country 3/4
14			13	Modern Country
15			14	Country Pop
16			15	Bar Country
17			16	Country 8 Beat
18			17	Country 16 Beat
19			18	Bluegrass
20			19	Country Boogie
21			20	Country Shuffle
Bank: Traditional				
1	0	7	0	Italian Waltz 1
2			1	Italian Waltz 2
3			2	Italian Polka 1
4			3	Italian Polka 2
5			4	Italian Polka 3
6			5	Italian Mazurka 1
7			6	Italian Mazurka 2
8			7	Italian Mazurka 3
9			8	Bavarian Polka 1
10			9	Bavarian Polka 2
11			10	German Polka 1
12			11	German Polka 2
13			12	German Waltz 1
14			13	German Waltz 2
15			14	German March
16			15	Heimat Walzer
17			16	9/8
18			17	Vahde
19			18	2/4 Oyun
20			19	Ciftetelli
21			20	Halay
22			21	5/8
23			22	Oryantal
24			23	Turkish Pop
25			24	Musette Waltz
26			25	French Waltz

#	CC0	CC32	PC	Name
27			26	French March
28			27	Irish Waltz
Bank: Latin				
1	0	8	0	Samba Enredo
2			1	Samba Brazil
3			2	Bossa Nova
4			3	Classic Salsa
5			4	Classic Mambo
6			5	Classic ChaCha
7			6	Guajira
8			7	Guaguancò
9			8	Timba
10			9	Afro 6/8
11			10	Bomba
12			11	Classic Bachata
13			12	Classic Merengue
14			13	Cumbia
15			14	Joropo
16			15	Habanera
17			16	Guitar Bossa
18			17	Meditation Bossa
19			18	Organ Bossa
20			19	Pop Bossa
21			20	Cool Bossa
22			21	Fast Bossa
23			22	Orch. Bossa 1
24			23	Orch. Bossa 2
25			24	Brazilian Samba
26			25	Salsa 1
27			26	Salsa 2
28			27	Mambo
29			28	Pop ChaCha
30			29	Rhumba 1
31			30	Rhumba 2
32			31	Bachata
33			32	Cool Latin Jazz
34			33	Latin Big Band
35			34	Latin Pop
36			35	Latin Bolero
37			36	Latin Vocal
38			37	Sabor
39			38	Merengue
40			39	Natural Bossa
Bank: Latin Dance				
1	0	9	0	Reggaeton 1
2			1	Reggaeton 2
3			2	Lambada
4			3	Meneaito
5			4	Macarena
6			5	Bomba Dance
7			6	Tortura Dance
8			7	Gipsy Dance

#	CC0	CC32	PC	Name
9			8	Sambalegre
10			9	Samba Dance
11			10	Disco Samba
12			11	Mambo Party
13			12	Mambo 2000
14			13	Modern Bachata
15			14	Classic Beguine
16			15	Modern Beguine
17			16	Bayon
18			17	Modern Bossa
19			18	Disco ChaCha
20			19	Calypso
21			20	Reggae 1
22			21	Reggae 2
23			22	Latin Club
24			23	Andean
Bank: Jazz				
1	0	10	0	Swing Band
2			1	Modern Big Band
3			2	Big Band Shuffle
4			3	Latin Jazz Band
5			4	Bigger Band
6			5	Medium Big Band1
7			6	Medium Big Band2
8			7	Fast Big Band
9			8	Medium JazzWaltz
10			9	Fast Jazz Waltz
11			10	Tonewheel Swing
12			11	Jazz Quartet
13			12	BeBop
14			13	Swing Ballad 1
15			14	Swing Ballad 2
16			15	Swing Ballad 3
17			16	Dixieland
18			17	Django
19			18	Organ Swing
20			19	Organ Blues
21			20	Serenade Band
22			21	Jazz Club
23			22	Slow Swing Brush
24			23	Orchestral Swing
25			24	Jazz Brush
26			25	Soft Jazz
27			26	Jazzy Blues
28			27	Swing Quintet
29			28	Moon Swing
30			29	5/4 Swing
31			30	Stride
32			31	Charleston
33			32	Vocal Swing
34			33	Vocal Jazz

#	CC0	CC32	PC	Name
Bank: Movie & Show				
1	0	11	0	ScreenEpicMarch1
2			1	ScreenEpicMarch2
3			2	Orchestral Movie
4			3	Broadway
5			4	Hollywood 1
6			5	Hollywood 2
7			6	Show Time
8			7	Mystery Man
9			8	Ritz Swing
10			9	Tap Dance
11			10	Movie Ballad
12			11	Movie Swing
13			12	Safari Swing
14			13	Western Movie
15			14	Cartoon Time
16			15	Horror Movie
17			16	Love Movie
18			17	Artie's Theme
19			18	Love Ballad
20			19	Army Band
21			20	Christmas Waltz
22			21	Chrismas Swing
23			22	Theatre Swing
24			23	Theatre March
Bank: Funk & Soul				
1	0	12	0	Capital Soul
2			1	Soul Power
3			2	Level Funk
4			3	Kool Funk
5			4	Acoustic Shuffle
6			5	Blues
7			6	Talkin' Jazz
8			7	Classic Funk
9			8	70's Beat Groove
10			9	Funk R&B
11			10	Al Funk
12			11	Elektrik Funk
13			12	Urban Funk
14			13	Soul
15			14	Funky Sisters
16			15	Slide Blues
17			16	Gospel
18			17	Gospel Swing
19			18	Gospel Shuffle
20			19	Rhythm & Blues
21			20	Modern Gospel 1
22			21	Modern Gospel 2
23			22	Motown Shuffle 1
24			23	Motown Shuffle 2
25			24	Al Swing
26			25	Groove

#	CC0	CC32	PC	Name
27			26	Groove Funk
28			27	Cool Vocal
Bank: World				
1	0	13	0	Spanish Dance
2			1	Flamenco 4/4
3			2	Flamenco 3/4
4			3	Casatchock
5			4	Greek Rumba
6			5	Xasapiko
7			6	Sirtaki
8			7	Zouk
9			8	Hawaiian
10			9	Mexican Waltz
11			10	Norteno
12			11	Kebradita
13			12	Bolero Ranchero
14			13	Mariachi Polka
15			14	Mariachi Valz
16			15	Mariachi Cumbia
17			16	Alpen Schlager
18			17	Classic Schlager
19			18	Modern Schlager
20			19	Vienna Waltz
21			20	Tarantella
22			21	Rumba Napoletana
23			22	Raspa
24			23	Mad Ska
25			24	Celtic Dream
26			25	Celtic Waltz
27			26	Celtic Ballad
28			27	Scottish Reel
29			28	Banda
30			29	OrchestralBolero
31			30	Minuetto
32			31	Baroque
33			32	Orleans
34			33	Cajun
35			34	Zydeco
36			35	Hora

#	CC0	CC32	PC	Name
Bank: Contemporary				
1	0	14	0	Love 4 All
2			1	Dance to Rhythm
3			2	Latin Rock Hit
4			3	Chill Out
5			4	Fast Smooth Jazz
6			5	Slow Smooth Jazz
7			6	Funk & Rock
8			7	Funk Groovin'
9			8	Ambient RMX
10			9	Kyoto Lounge
11			10	Ambient Groove
12			11	Contemporary Bld
13			12	Funky R&B
14			13	AM : PM
15			14	Little Boy
16			15	Island View
17			16	Karma
18			17	Slow & Jazzy
19			18	Take beat
20			19	Slow Funk
21			20	Swing HipHop
22			21	Slow Mood
23			22	Hip Hindi Hop
24			23	Soft HipHop
25			24	Elektro Funk
26			25	Jazzy PopFunk
27			26	Elektro Pop
28			27	Modern Latin
29			28	Folk Beat
30			29	Wave Jazz
31			30	Little Shuffle
32			31	Pop Rock Hit
33			32	Dance Hit
34			33	Rap
35			34	New Age

Style Elements

Note: *You can remotely select the various Style Elements on the Pa3X, by sending it Program Change messages on the Control channel (see "MIDI: MIDI In Channels" on page 211* of the User's Manual*).*

PC	Style Element	PC	Style Element	PC	Style Element	PC	Style Element	PC	Style Element
80	Intro 1	81	Intro 2	82	Intro 3/Count In	83	Variation 1	84	Variation 2
85	Variation 3	86	Variation 4	87	Fill 1	88	Fill 2	89	Fill 3
90	Fill 4	91	Break	92	Ending 1	93	Ending 2	94	Ending 3

Note: *The above Program Change numbers are given according to the 0-127 numbering system.*

Style and Player controls

Note: *You can remotely send various commands to the Style and Player of the Pa3X, by sending it Program Change messages on the Control channel (see "MIDI: MIDI In Channels" on page 211* of the User's Manual*).*

PC	Style Element	PC	Style Element	PC	Style Element	PC	Style Element	PC	Style Element
95	Fade In/Out	96	STS Mode	97	Auto Fill	98	Memory	99	Bass Inversion
100	Manual Bass	101	Tempo Lock	102	Style Change	103	Start/Stop (Style)	104	Play/Stop (Ply 1)
105	Play/Stop (Ply 2)								

Note: *The above Program Change numbers are given according to the 0-127 numbering system.*

Single Touch Settings (STS)

Note: *You can remotely select Single Touch Settings (STS) on the Pa3X, by sending it Bank Select MSB (CC#0), Bank Select LSB (CC#32) and Program Change messages on the Control channel (see "MIDI: MIDI In Channels" on page 211* of the User's Manual*). If a Style is already selected, just send the Program Change message.*

CC#0	CC#32	PC	STS	PC	STS	PC	STS	PC	STS
The same as the Style to which the STS belongs		64	STS 1	65	STS 2	66	STS 3	67	STS 4

Note: *The above Control Change and Program Change numbers are given according to the 0-127 numbering system.*

Sounds (Bank order)

The following table lists all Pa3X Factory Sounds as they appear in the banks accessed by pressing the SOUND SELECT buttons on the control panel.

Legend: *The table also includes MIDI data used to remotely select the Sounds.* ***CC00:*** *Control Change 0, or Bank Select MSB.* ***CC32:*** *Control Change 32, or Bank Select LSB.* ***PC:*** *Program Change.* ***Bank:*** *Sound Select button.*

CC00	CC32	PC	Sound Name
Factory: Piano			
121	10	0	Grand Piano RX
121	13	0	Concert Grand RX
121	12	0	Grand Piano Live
121	3	0	Grand Piano
121	8	2	G.Piano Stack 1
121	9	2	G.Piano Stack 2
121	2	3	Honky-Tonk RX
121	3	3	Ragtime Piano
121	9	0	Grand&MovingPad
121	10	2	E. Grand Phaser
121	7	0	Piano & Strings
121	5	0	Jazz Piano
121	6	6	Harpsichord RX
121	5	7	Clav RX
121	6	7	Synth Clav RX
121	2	7	Clav Wah RX
121	4	0	Classic Piano
121	8	0	Rock Piano
121	5	1	Bright Piano RX
121	4	1	Piano & Pad
121	7	2	Grand & FM Stack
121	6	2	Piano Layers
121	6	0	Piano & Vibes
121	11	0	Grand RX DEMO
Factory: E. Piano			
121	27	4	Tine EP Phaser
121	28	4	Tine EP Dyno
121	29	4	Tine EP Amp/Phas
121	31	4	Wet Tine EP
121	30	4	Dist. Tine EP
121	32	4	Bell Tine EP
121	33	4	Suit Case88 EP1
121	34	4	Suit Case88 EP2
121	36	4	Wurly Logic
121	38	4	Wurly Amp
121	39	4	Wurly Clean 1
121	41	4	Wurly Clean 2
121	37	4	Reed EP Clean
121	40	4	Wurly AmpChorus
121	44	4	Natural Wurly
121	42	4	Wurly RX Noise
121	17	5	VPM E. Piano
121	14	5	Digi E. Piano
121	9	5	Classic Tines
121	11	5	DW8000 EP
121	43	4	Natural EP
121	35	4	E.Piano RX Noise
121	25	4	EP+Damper 1 DNC
121	26	4	EP+Damper 2 DNC
121	18	4	Tine E.Piano RX
121	11	4	Club E. Piano
121	20	4	Suit E.Piano 1
121	21	4	Suit E.Piano 2
121	17	4	Classic Wurly 1
121	12	4	Classic Wurly 2
121	16	4	Tremolo Wurly
121	8	4	R&B E. Piano
121	15	5	FM Pad EP
121	13	5	White Pad EP
121	9	4	Thin E. Piano
121	19	4	Tine E. Piano
121	10	4	Dyno Tine EP 1
121	22	4	Dyno Tine EP 2
121	7	4	Studio EP
121	5	4	Pro Dyno EP
121	6	4	Pro Stage EP
121	23	4	Bell E. Piano 1
121	24	4	Bell E. Piano 2
Factory: Mallet & Bell			
121	2	11	Vibraphone 1
121	7	12	Marimba
121	2	12	Marimba Key Off
121	1	13	Xylophone
121	2	9	Glockenspiel
121	1	8	Celesta
121	2	10	Music Box
121	6	12	Balaphon
121	2	108	Kalimba 1
121	1	108	Kalimba 2
121	1	9	Sistro
121	1	10	Orgel
121	1	114	Warm Steel
121	2	98	Vs Bell Boy
121	4	14	Tubular Bell
121	3	14	Bells
121	1	15	Santur
121	5	12	Mallet Clock
Factory: Accordion			
121	6	22	Jazz Harm. DNC
121	7	22	Sweet Harm. DNC
121	5	22	Harmonica DNC
121	8	22	Melodica DNC
121	29	21	Classic Musette

CC00	CC32	PC	Sound Name
121	12	21	Cassotto 16'
121	9	21	Cassotto
121	23	21	Master Accordion
121	11	21	Sweet Musette
121	18	21	French Musette
121	16	21	2 Voices Musette
121	17	21	3 Voices Musette
121	3	23	Accordion16,8,4'
121	13	21	Cassotto Or.Tune
121	19	21	Acc.Clarinet OT
121	8	21	Fisa Master
121	3	22	Harmonica AT 1
121	4	22	Harmonica AT 2
121	2	22	Harmonica
121	21	21	Acc. Piccolo OT
121	2	23	Accordion 16,8'
121	8	23	Acc.16,8,4' Plus
121	6	21	Fisa 16,8'
121	7	23	Accordion 16,4'
121	7	21	Fisa 16,4'
121	3	21	Musette 1
121	4	21	Musette 2
121	10	23	Tango Accordion
121	1	23	Fisa Tango!
121	24	21	Accordion
121	4	23	Acc.16,8' & Bass
121	9	23	Acc. & Acc. Bass
121	5	23	Accordion Bass
121	25	21	Steirisch.Akk.1
121	26	21	Steirisch.Akk.2
121	27	21	Steirisch.Akk.3
121	28	21	Steirisch.Akk.4
121	6	23	Acc.Voice Change
Factory: Organ			
121	127	16	Digit.DRAWBARS
121	13	18	Jimmy Organ DNC
121	12	17	Classic Perc.Org
121	33	16	Organ Low+1'V.
121	10	17	Perc. Organ 1
121	9	17	Perc. Organ 2V.
121	11	17	Perc. Organ 3V.
121	36	16	Organ 16+51/3 V.
121	10	16	BX3 Rock 1 V.
121	1	18	BX3 Rock 2 V.
121	5	18	BX3 Rock 3 V.
121	12	18	BX3 Rock 4 V.
121	6	16	BX3 Full V.
121	20	16	BX3 Jazz V.
121	9	18	BX3 Jazz Pc. V.
121	21	16	BX3 Gospel V.
121	10	18	Jimmy Organ V.
121	13	16	Gospel Organ V.
121	19	16	Drawbars Slow V.

CC00	CC32	PC	Sound Name
121	18	16	Drawbars Fast V.
121	14	16	Drawbars Organ
121	8	16	Jazz Organ
121	17	16	Organ Hi V.
121	4	17	Organ LowPc V.
121	4	16	Organ Low 1 V.
121	15	16	Organ Low 2 V.
121	16	16	Organ Mid V.
121	34	16	Organ HiMix1 V.
121	35	16	Organ HiMix2 V.
121	30	16	Big Theatre Org.
121	22	16	Theatre Organ 1
121	23	16	Theatre Organ 2
121	6	19	Pipe Tutti 1
121	8	19	Pipe Tutti 2
121	9	19	Pipe Tutti 3
121	10	19	Pipe Tutti 4
121	4	19	Church Pipes
121	5	19	Full Pipes
121	3	19	Pipe Mixture
121	4	20	Pipe Flute 1
121	5	20	Pipe Flute 2
121	3	20	Flauto Pipes
121	2	20	Small Pipe
121	7	19	Positive Organ
Factory: Guitar			
121	20	24	Concert Gtr DNC
121	21	24	Concert Gtr Pro
121	36	25	ClassicSteel DNC
121	37	25	Classic12Str Pro
121	4	29	Lead Guitar DNC
121	35	27	E.Gtr Ch/Dly DNC
121	13	30	Dist. Gtr 1 DNC
121	14	30	Dist. Gtr 2 DNC
121	16	24	RealNylon Gtr ST
121	17	24	Real Nylon Gtr
121	38	25	Classic12Str DNC
121	39	25	Classic 12Str RX
121	32	27	Stra. Gtr 1 DNC
121	33	27	Stra. Gtr 2 DNC
121	3	29	Crunch Gtr DNC
121	34	27	Chorus Gtr DNC
121	28	25	RealSteel Gtr ST
121	29	25	RealFolk Gtr ST1
121	30	25	RealFolk Gtr ST2
121	35	25	Steel Gtr RX
121	7	26	Jazz Gtr DNC
121	5	26	Soft Jazz Guitar
121	37	27	E.Gtr Amp DNC
121	14	27	Single Coil Pro
121	18	24	Nylon Guitar DNC
121	19	24	Natural NylonDNC
121	34	25	RealFolk Gtr DNC

CC00	CC32	PC	Sound Name
121	33	25	Real 12 Strings
121	8	24	Nylon Gtr Pro1
121	11	24	Nylon Gtr Pro2
121	14	24	Nylon Slide Pro
121	19	25	Steel Guitar Pro
121	17	25	12 Strings Pro
121	5	25	Steel 12 Strings
121	31	25	Real Steel Gtr
121	32	25	Real Folk Gtr
121	28	27	Real El. Gtr ST1
121	29	27	Real El. Gtr ST2
121	30	27	Real El. Guitar1
121	31	27	Real El. Guitar2
121	6	26	JazzGtr SlidePro
121	2	26	Club Jazz Gtr 1
121	22	27	Clean Jazz 1
121	23	27	Clean Jazz 2
121	21	25	Pop Steel Gtr 1
121	22	25	Pop Steel Gtr 2
121	21	28	5th Mute Gtr
121	8	30	Stereo Dist.Gtr
121	21	27	Solid Guitar
121	13	25	Steel Slide Pro1
121	14	25	Steel Slide Pro2
121	20	27	Clean Guitar 1
121	12	28	Funk Stein RX1
121	10	28	Clean Funk RX1
121	9	30	Dist. Guitar RX1
121	10	30	Dist. Guitar RX2
121	19	27	Vintage S. 1
121	6	28	Clean Mute Gtr
121	5	24	Ac.Guitar KeyOff
121	4	25	Steel Guitar 1
121	20	25	Steel Guitar 2
121	13	27	Clean Gtr Pro 1
121	15	27	Clean Gtr Pro 2
121	11	30	Dist. Clean Gtr
121	18	27	Chorus Gtr Pro
121	4	26	Pedal Steel
121	24	27	'54 E. Guitar
121	6	27	Single Coil
121	16	27	Stra. Vel. Pro
121	7	27	New Stra.Guitar
121	2	29	Soft Overdrive
121	3	27	Chorus Guitar
121	4	27	Vintage S. 2
121	5	27	Processed E.Gtr
121	9	27	L&R E.Guitar 1
121	4	28	R&R Guitar
121	4	30	Power Chords
121	5	30	Mute Monster
121	9	28	Disto Mute
121	12	24	Nylon Gtr RX1

CC00	CC32	PC	Sound Name
121	13	24	Nylon Gtr RX2
121	15	25	Steel Guitar RX1
121	16	25	Steel Guitar RX2
121	18	25	12 Strings RX
121	22	24	Concert 12Str RX
121	24	25	Pop SteelGtr RX1
121	25	25	Pop SteelGtr RX2
121	3	120	Vox Wah Chick RX
121	12	27	Funky Wah RX
121	15	30	Power Chords RX
121	36	27	Clean Funk RX1
121	11	28	Clean Funk RX2
121	13	28	Funk Stein RX2
121	14	28	Clean Guitar RX1
121	15	28	Clean Guitar RX2
121	16	28	Clean Guitar RX3
121	17	28	Clean Guitar RX4
121	18	28	Clean Guitar RX5
121	20	28	Clean Guitar RX6
Factory: Strings & Vocal			
121	7	40	Real Violin DNC
121	5	40	Violin Expr. DNC
121	6	40	Conc.Violin DNC
121	2	46	Classic Harp
121	4	53	SopranoVox1 DNC
121	5	53	SopranoVox2 DNC
121	9	49	Real Strings 1
121	10	49	Real Strings 2
121	7	49	Movie Str.1 DNC
121	8	49	Movie Str.2 DNC
121	8	40	Violin Expr. 1
121	2	40	Violin Expr. 2
121	21	52	Cycle Scat 1
121	22	52	Cycle Scat 2
121	20	52	Scat Voices DNC
121	23	52	Little Boy Voice
121	5	49	Movie Strings 1
121	6	49	Movie Strings 2
121	11	49	Concert Strings
121	22	48	Strings Ens. RX
121	23	48	Concert Str.RX
121	2	49	Full Strings
121	11	48	Ensemble & Solo
121	1	44	Tremolo Strings
121	1	43	Class.Contrabass
121	1	42	Cello
121	1	41	Viola Expr.
121	2	41	Violin & Viola
121	4	40	Violin Expr. 3
121	3	40	Slow Violin
121	9	48	Strings Quartet
121	12	48	Chamber Strings
121	14	48	Orchestra Tutti1

CC00	CC32	PC	Sound Name
121	19	48	Orchestra Tutti2
121	16	48	Orch. & Oboe 1
121	17	48	Orch. & Oboe 2
121	20	48	Orchestra&Flute
121	15	48	Strings & Horns
121	18	48	Strings & Glock.
121	1	45	Pizz. Ensemble
121	2	45	Pizz. Section
121	8	48	Octave Strings
121	4	49	Spiccato Strings
121	10	48	Symphonic Bows
121	5	50	Analog Strings 1
121	6	50	Synth Strings 1
121	17	52	Scat V.& Bass1
121	18	52	Scat V.& Bass2
121	8	52	Wuuh Choir
121	9	52	Oh-Ah Voices
121	14	52	Femal&Male Scat
121	4	52	Take Voices 1
121	3	52	Ooh Slow Voice
121	19	52	Scat Voices RX
121	16	52	Male Scat
121	15	52	Femal Scat
121	11	52	Grand Choir
121	6	52	Ooh Choir
121	2	52	Ooh Voices
121	12	52	Choir Light
121	6	54	Synth Voices
121	9	91	Full Vox Pad
121	2	54	Vocalesque
121	7	91	Fresh Breath
121	3	54	Vocalscape
121	3	91	Heaven
121	3	53	Airways
Factory: Trumpet & Trbn.			
121	24	56	Jazz Trumpet DNC
121	26	56	Trumpet Expr.DNC
121	25	56	Jazz Cornet DNC
121	15	57	Jazz Trb. 1 DNC
121	14	57	Jazz Trb. 2 DNC
121	16	57	Soft Trb. DNC
121	17	57	Trb. Expr. DNC
121	13	57	Trombone DNC
121	15	56	Trumpet Expr.1
121	4	56	Trumpet Expr.2
121	21	56	Cornet Expr.
121	2	59	Wah Trumpet
121	5	59	Mute Trumpet
121	12	56	Sweet FlugelHorn
121	6	57	Trombone Expr. 1
121	7	57	Trombone Expr. 2
121	10	56	Trumpet Pro 1
121	11	56	Trumpet Pro 2

CC00	CC32	PC	Sound Name
121	16	56	Trumpet Pro 3
121	2	56	Trumpet Overb.
121	22	56	Cornet Pro 1
121	23	56	Cornet Pro 2
121	8	57	Trombone Vel. 1
121	9	57	Trombone Vel. 2
121	10	57	Trombone Vel. 3
121	13	56	Flugel Horn Pro
121	19	56	Concert Trumpet
121	20	56	Concert Trp. Pro
121	6	56	Dual Trumpets
121	3	57	Hard Trombone
121	11	57	Trombone Pro Vel
121	17	56	Alp Trumpet
121	14	56	Trumpet
121	18	56	Trumpet Shake Y+
121	5	56	Trumpet Pitch
121	6	58	Alp Tuba
121	2	58	Tuba Gold
121	1	58	Oberkr. Tuba
Factory: Brass			
121	32	61	Big Band Brass 1
121	4	61	Big Band Brass 2
121	27	61	Tight Brass 1
121	29	61	Tight Brass 2
121	2	61	Tight Brass 3
121	12	61	Tight Brass 4
121	5	60	Trpt. & Horns
121	34	61	Trpts &Trombs
121	6	60	Soft Horns 1
121	7	60	Soft Horns 2
121	8	60	Soft Horns 3
121	28	61	Tight Brass Pro
121	36	61	Trumpet Ens2 Y+
121	9	61	Trumpet Ens.
121	10	61	Trombone Ens.
121	11	61	Trombones
121	14	61	Dyna Brass 1
121	7	61	Trpts & Brass
121	13	61	Fat Brass
121	30	61	Brass of Power
121	3	61	Glenn & Friends
121	6	61	Glenn & Boys
121	5	61	Sax & Brass
121	16	61	Brass & Sax
121	3	59	Mute Ensemble 1
121	4	59	Mute Ensemble 2
121	23	61	Sforzato Brass
121	20	61	Movie Brass
121	6	73	Flute Muted
121	2	60	French Section
121	4	60	Horns & Ensemble
121	3	60	Classic Horns

CC00	CC32	PC	Sound Name
121	5	62	Synth Brass 1
121	4	62	Electrik Brass
121	31	61	Brass Section
121	26	61	Brass Fall
121	4	55	Brass Impact
121	25	61	Brass Hit
Factory: Sax			
121	13	65	Jazz Sax 1 DNC
121	14	65	Jazz Sax 2 DNC
121	12	65	Alto Sax DNC
121	12	66	Tenor Sax DNC
121	9	65	Alto Sax Expr.
121	10	65	Alto Sax RX
121	1	66	Tenor Sax Noise1
121	6	66	Tenor Sax Noise2
121	3	64	Sweet Soprano 1
121	4	64	Sweet Soprano 2
121	1	64	Sweet Soprano 3
121	2	64	Soprano Pro
121	3	67	Baritone Sax Pro
121	4	67	Baritone Sax
121	5	65	Sweet Alto Sax 1
121	6	65	Sweet Alto Sax 2
121	7	65	Soft Alto Sax
121	8	65	Alto Sax Pro
121	8	66	Tenor Sax Expr.2
121	7	66	Tenor Sax Expr.1
121	9	66	Jazz Tenor 1
121	10	66	Jazz Tenor 2
121	1	67	Baritone Growl
121	11	65	Cool Sax Ens.
121	2	65	Sax Ensemble
121	11	66	Reed of Power
Factory: Woodwind			
121	14	71	RealClarinet DNC
121	15	71	JazzClarinet DNC
121	16	71	SoloClarinet DNC
121	13	71	Clarinet DNC
121	2	68	Classic Oboe
121	13	73	Jazz Flute DNC
121	12	73	Orch. Flute DNC
121	11	73	Flute DNC
121	5	78	Whistle DNC
121	3	77	Shakuhachi Vel.
121	2	75	Panflute 1 DNC
121	3	75	Panflute 2 DNC
121	1	76	Blown Bottle
121	1	70	Bassoon
121	3	72	Piccolo
121	1	79	Ocarina
121	2	73	Flute Switch
121	10	73	Jazz Flute RX

CC00	CC32	PC	Sound Name
121	1	73	Jazz Flute Expr.
121	3	73	Flute Dyn. 5th
121	4	73	Flute Frullato
121	1	71	Jazz Clarinet
121	8	71	Clarinet Pro 1
121	9	71	Clarinet Pro 2
121	1	78	Whistle
121	3	78	Whistle RX1
121	4	78	Whistle RX2
121	2	78	Whistle Breathe
121	17	71	Clar & Sax Ens.1
121	18	71	Clar & Sax Ens.2
121	1	68	Double Reed
121	5	73	Orchestra Flute
121	6	71	Woodwinds
121	1	72	Small Orchestra
121	5	71	Clarinet Ens.
121	3	71	Section Winds 1
121	4	71	Section Winds 2
121	10	71	Reeds & Saxes
Factory: Synth Pad			
121	15	89	Warm Pad
121	13	91	Choir-Sequence
121	3	93	Techno Stab DNC
121	4	96	Wave-Sequence
121	4	101	Organ Stab DNC
121	4	127	Deep Noise
121	4	89	The Pad
121	6	89	Dark Pad
121	8	89	Analog Pad 1
121	9	89	Analog Pad 2
121	12	89	OB Pad
121	13	89	Dark Anna
121	14	89	Symphonic Ens.
121	5	91	Future Pad
121	1	97	Air Clouds
121	3	97	Tinklin Pad
121	4	97	Pods In Pad
121	7	95	Vintage Sweep
121	5	89	Money Pad
121	6	91	Tsunami Wave
121	8	91	Ravelian Pad
121	2	95	Meditate
121	4	90	Super Sweep
121	5	90	Wave Sweep
121	6	90	Cross Sweep
121	2	101	Digi Ice Pad
121	5	95	Cinema Pad
121	1	88	Virtual Traveler
121	1	96	Motion Ocean
121	5	102	Moon Cycles
121	6	98	Bell Pad
121	4	63	Big Panner

CC00	CC32	PC	Sound Name
121	6	97	Rave
121	5	98	Moving Bell
121	10	89	Analog Pad 3
121	12	90	Big Sweep Stab
121	2	91	Fresh Air 1
121	11	91	Fresh Air 2
121	4	91	Pop Synth Pad 1
121	12	91	Pop Synth Pad 2
121	2	93	80's Pop Synth
121	3	96	Wave Cycle DNC
Factory: Synth Lead			
121	12	87	Bass Phat Saw
121	3	80	Old Portamento
121	5	81	Power Saw
121	6	81	Octo Lead
121	2	87	Electro Lead
121	3	87	Rich Lead
121	4	87	Thin Analog Lead
121	4	80	Dance Lead
121	5	80	Wave Lead
121	6	80	Sine Wave
121	5	87	Express. Lead
121	6	87	HipHop Lead
121	7	80	Analog Lead
121	8	81	Phat Saw Lead
121	9	81	Glide Lead
121	9	80	Gliding Square
121	3	89	Power Synth
121	10	80	Sine Switch
121	1	93	Cosmic
121	10	81	Fire Wave
121	7	90	Digital PolySix
121	11	87	A Leadload
121	8	90	Noisy Stabb
121	9	90	Mega Synth
121	3	95	Dark Element
121	4	84	Metallic Rez
121	12	81	Synth Pianoid
121	2	88	Arp Angeles
121	8	87	Big & Raw
121	2	96	Caribbean
121	10	87	OB Lead
121	12	80	Port Whine
121	13	80	2VCO Planet Lead
121	3	101	VCF Modulation
Factory: Ethnic			
121	40	25	Mandolin DNC
121	43	25	Mandolin
121	41	25	Mandolin Orch.1
121	42	25	Mandolin Orch.2
121	23	24	Cavaquinho 1
121	24	24	Cavaquinho 2

CC00	CC32	PC	Sound Name
121	25	24	Ukulele
121	9	104	Zither
121	8	104	Sitar
121	1	110	Fiddle
121	11	25	Mandolin Trem.
121	26	25	Mandolin Ens. 1
121	27	25	Mandolin Ens. 2
121	1	105	Banjo Key Off
121	4	105	Banjo RX
121	2	104	Sitar Tambou
121	5	107	Kanoun 1
121	2	107	Kanoun 2
121	6	107	Kanoun Trem. 1
121	3	107	Kanoun Trem. 2
121	4	107	Kanoun Mix
121	5	105	Oud 1
121	2	105	Oud 2
121	5	104	Bouzouki
121	2	72	Nay
121	2	71	Clarinet G
121	11	71	Klarnet 1
121	12	71	Klarnet 2
121	1	77	Old Shakuhachi
121	1	75	Kawala
121	2	111	Hichiriki
121	3	109	HighlandBagPipes
121	2	109	Uillean BagPipes
121	4	104	Indian Frets
121	3	111	Zurna 1
121	1	111	Zurna 2
121	1	112	Gamelan
121	3	112	Garbage Mall
121	3	105	Jaw Harp
121	7	107	Ac. Baglama 1
121	8	107	Ac. Baglama 2
121	9	107	Ac. Baglama Grp.
Factory: Bass			
121	12	32	Real Ac.Bass RX
121	13	32	Real Ac.Bass
121	17	33	Vintage P.Round
121	18	33	Vintage P. Flat
121	19	33	5 Strings BassRX
121	20	33	Dark E.Bass 1
121	24	33	Dark E.Bass 2
121	21	33	Finger Jazz B.RX
121	22	33	Dark E.Bass DNC
121	23	33	Vintage P. Bass
121	12	34	Vintage P. Pick
121	13	34	Picked Jazz Bass
121	8	35	MM Fretless B.RX
121	9	35	Woofer Pusher 1
121	16	33	Finger Bass DNC
121	7	36	Dark Bs&Slp DNC

CC00	CC32	PC	Sound Name
121	3	32	Acous. Bass Pro1
121	4	32	Acous. Bass Pro2
121	9	32	Jazz Bass
121	8	32	Acoustic Bass
121	6	33	Finger Bass 1
121	7	33	Finger Bass 2
121	10	33	Finger Bass 3
121	15	33	Finger Bass 4
121	12	33	Finger Slap
121	5	37	The Other Slap
121	1	37	Thumb Bass
121	7	34	Pick Bass 1
121	8	34	Pick Bass 2
121	1	36	Super Bass 1
121	2	36	Super Bass 2
121	3	35	Sweet Fretless
121	2	33	Finger E.Bass 1
121	3	33	Finger E.Bass 2
121	4	33	Finger E.Bass 3
121	1	35	Fretless Bass 1
121	2	35	Fretless Bass 2
121	6	32	Bass & Ride 1
121	2	32	Bass & Ride 2
121	9	33	Bright Finger B.
121	1	34	Picked E.Bass 1
121	2	34	Picked E.Bass 2
121	11	34	Picked E.Bass 3
121	8	33	Chorus Fing.Bass
121	5	34	Bass Mute
121	18	38	Synth Bass 1
121	15	39	Synth Bass 2
121	6	34	Bass&Gtr Double
121	14	33	FingerB.& Guitar
121	4	34	Bass & Guitar
121	5	38	30303 Bass
121	3	34	Stein Bass
121	5	39	Jungle Rez
121	8	38	Syn Bass Reso
121	9	38	Digi Bass 1
121	11	38	Digi Bass 3
121	13	38	Jungle Bass
121	15	38	Hybrid Bass
121	10	38	Digi Bass 2
121	10	32	Organ Pedal 1
121	11	32	Organ Pedal 2
121	7	32	Acous. Bass RX
121	13	33	Finger Bass RX
121	4	36	SlapFing Bass RX
121	10	34	Picked Bass RX
121	5	36	SlapPick Bass RX
121	3	36	FunkSlap Bass RX
Factory: Drum & SFX			
120	0	93	Standard Kit Amb

CC00	CC32	PC	Sound Name
120	0	80	Room Kit Amb
120	0	20	Power Kit 1 Amb
120	0	21	Power Kit 2 Amb
120	0	22	Rock Kit Amb
120	0	94	Vintage Kit Amb
120	0	23	Gate Kit Amb
120	0	39	Cool Kit Amb
120	0	36	Jazz Kit 1 Amb
120	0	37	Jazz Kit 2 Amb
120	0	45	Brush Kit 1 Amb
120	0	46	Brush Kit 2 Amb
120	0	38	Lounge Kit Amb
120	0	95	Studio Kit RX
120	0	81	Real Kit 1 Amb
120	0	82	Real Kit 2 Amb
120	0	88	Pop Kit Amb
120	0	77	Groove Kit RX
120	0	59	Synth Kit 1
120	0	58	Synth Kit 2
120	0	5	Standard Kit RX1
120	0	1	Standard Kit RX2
120	0	2	Standard Kit RX3
120	0	6	Standard Kit RX4
120	0	3	Ambient Kit RX
120	0	4	Pop Std. Kit RX
120	0	75	Electro Kit RX1
120	0	76	Electro Kit RX2
120	0	42	Brush Kit RX1
120	0	43	Brush Kit RX2
120	0	44	Brush Kit RX3
120	0	72	HipHop Kit RX
120	0	33	Jazz Kit RX1
120	0	34	Jazz Kit RX2
120	0	35	Jazz Kit RX3
120	0	73	Techno Kit RX
120	0	30	House Kit RX1
120	0	31	House Kit RX2
120	0	18	Power Kit RX1
120	0	19	Power Kit RX2
120	0	74	Dance Kit RX
120	0	123	Analog Kit
120	0	10	Jungle Kit
120	0	122	Electro Kit
120	0	120	Room Kit 1
120	0	9	HipHop Kit 1
120	0	11	Techno Kit 1
120	0	89	Pop Std. Kit 1
120	0	90	Pop Std. Kit 2
120	0	96	Elektro Kit 1
120	0	97	Elektro Kit 2
120	0	51	Arabian Kit 1
120	0	69	Standard PercKit
120	0	117	Arabian Kit 2

CC00	CC32	PC	Sound Name
120	0	118	Turkish Kit
120	0	119	Oriental PercKit
120	0	64	Percussion Kit
120	0	65	Latin Perc.Kit 1
120	0	68	Latin Perc.Kit 2
120	0	66	Trinity Perc.Kit
120	0	67	i30 Perc. Kit
120	0	60	SFX Kit 1
120	0	57	SFX Kit 2
Legacy: Piano			
121	2	2	M1 Piano
121	2	1	Piano Pad 1
121	3	1	Piano Pad 2
121	3	2	90's Piano
121	4	2	2000's Piano
121	5	2	Chorus Piano
121	5	6	Harpsi 16' RX
121	4	6	Harpsi Korg
121	3	7	Clav Snap
121	4	7	Sticky Clav
Legacy: E. Piano			
121	4	4	Vintage EP
121	6	5	Stereo Dig. EP
121	16	5	FM Stack EP
121	8	5	Hybrid EP
121	10	5	Phantom Tine
121	13	4	Soft Wurly
121	14	4	Hard Wurly
121	15	4	Velo Wurly
121	12	5	Sweeping EP
121	7	5	Classic Dig. EP
121	5	5	Syn Piano X
Legacy: Mallet & Bell			
121	3	11	Vibraphone 2
121	3	12	Monkey Skuls
121	4	98	Digi Bell
121	3	98	Krystal Bell
Legacy: Accordion			
121	1	22	Sweet Harmonica
121	2	21	Akordeon
121	14	21	Cassotto NorTune
121	20	21	Acc. Clarinet NT
121	22	21	Acc. Piccolo NT
121	15	21	Detune Accordion
121	5	21	Musette Clar.
121	10	21	Arabic Accordion
Legacy: Organ			
121	4	18	Classic Click
121	8	18	Perc.Short Deca
121	11	18	Rock Organ 2
121	3	18	Dirty B

CC00	CC32	PC	Sound Name
121	2	18	Killer B
121	7	17	BX3 Short Decay
121	6	18	Super BX Perc.
121	9	16	Gospel Organ
121	3	17	Old Wheels
121	7	16	Dark Organ 1
121	5	16	Dark Organ 2
121	8	17	Rotary Organ
121	11	16	VOX Legend
121	5	17	M1 Organ
121	7	18	Dirty JazzOrgan
121	12	16	Arabian Organ
121	24	16	Theatre Organ 3
121	25	16	Theatre Organ 4
121	26	16	Tibia
121	27	16	Tibia 16+8+4
121	28	16	Tibia & Vox
121	29	16	Post Horn Trem.
121	31	16	Tibia & Kinura
121	32	16	Tibia Vox Glock
121	6	17	Techno Org.Bass
Legacy: Guitar			
121	4	24	Nylon Bossa
121	10	24	Nylon Vel. Harm.
121	6	24	Spanish Guitar
121	15	24	Nylon Guitar
121	9	24	Brazilian Guitar
121	9	25	Steel Folk Gtr
121	7	24	Guitar Strings
121	7	25	Finger Key Off
121	3	26	Club Jazz Gtr 2
121	23	25	Pop Steel Slide
121	8	25	Finger Tips
121	11	27	Country Nu
121	12	25	Reso Guitar
121	26	27	Tel. Midddle
121	8	28	Clean Funk
121	6	30	Wet Dist. Guitar
121	6	25	Hackbrett
121	27	27	Tel. Bridge
121	8	27	Guitarish
121	17	27	Stra. Gtr Slide
121	5	28	Stra. Chime
121	25	27	Clean Guitar 2
121	10	27	L&R E.Guitar 2
121	7	28	Rhythm E.Guitar
121	19	28	Muted Guitar
121	2	31	E.Gtr Harmonics
121	7	30	Solo Dist.Guitar
121	12	30	Dist. Steel Gtr
121	3	30	Joystick Gtr Y-

CC00	CC32	PC	Sound Name
Legacy: Strings & Vocal			
121	21	48	Strings Ens. 1
121	3	49	Strings Ens. 2
121	5	48	i3 Strings
121	3	48	Stereo Strings
121	2	89	Master Pad
121	6	48	N Strings
121	7	48	Arco Strings
121	4	48	Legato Strings
121	3	45	Double Strings
121	13	48	Arabic Strings
121	1	49	Sweeper Strings
121	2	50	Analog Strings 2
121	1	51	Synth Strings 2
121	5	52	Take Voices 2
121	7	52	Aah Choir
121	10	52	Slow Choir
121	2	85	Cyber Choir
121	4	50	Odissey
121	13	52	Strings Choir
121	3	50	Analog Velve
121	1	85	Ether Voices
121	5	54	Dream Voice
121	4	54	Classic Vox
121	2	53	Doolally
Legacy: Trumpet & Trbn.			
121	3	56	Mono Trumpet
121	8	56	Warm Flugel
121	5	57	Pitch Trombone
121	4	57	Soft Trombone
121	12	57	Trombone
121	9	56	BeBop Cornet
121	7	56	Flugel Horn
121	3	58	Dynabone
121	4	58	Ob.Tuba&E.Bass 1
121	5	58	Ob.Tuba&E.Bass 2
Legacy: Brass			
121	8	61	Attack Brass
121	33	61	Big BandShake Y+
121	35	61	Trumpet Ens1 Y+
121	22	61	Dyna Brass 2
121	24	61	Double Brass
121	21	61	Power Brass
121	15	61	Brass Expr.
121	17	61	Film Brass
121	18	61	Brass Slow
121	19	61	Fanfare
121	5	63	Synth Brass 2
121	3	63	Brass Pad
121	8	55	Netherland Hit
Legacy: Sax			
121	5	66	Folk Sax
121	2	67	Breathy Baritone
121	1	65	Alto Breath
121	3	66	Tenor Breath
121	3	65	Breathy Alto Sax
121	4	65	Alto Sax Growl
121	2	66	Soft Tenor
121	4	66	Tenor Growl
Legacy: Woodwind			
121	7	71	Folk Clarinet
121	9	73	Flute
121	7	73	Wooden Flute
121	8	73	Bambu Flute
121	1	69	English Horn
121	1	74	Recorder 1
121	2	74	Recorder 2
Legacy: Synth Pad			
121	2	90	Sky Watcher
121	11	89	Vintage Pad
121	8	95	You Decide
121	13	90	Korgmatose
121	6	95	Reoccuring Astra
121	1	95	Astral Dream
121	2	97	Reso Down
121	1	86	Crimson 5ths
121	7	89	Freedom Pad
121	5	97	Noble Pad
121	4	95	Mellow Pad
121	1	100	Lonely Spin
121	2	100	Synth Ghostly
121	11	90	Farluce
121	7	98	Bell Choir
121	10	91	Dance ReMix
121	7	97	Elastick Pad
Legacy: Synth Lead			
121	1	101	Motion Raver
121	2	84	Synchro City
121	6	55	Wild Arp
121	7	81	Seq Lead
121	8	80	Old & Analog
121	7	55	Flip Blip
121	1	90	Reso Sweep
121	3	90	Synth Sweeper
121	3	84	Sync Kron
121	10	90	Tecno Phonic
121	3	102	Band Passed
121	9	87	Cat Lead
121	4	102	Pan Reso
121	11	80	Square Rez
121	11	81	Rezbo
121	14	38	Auto Pilot 1
121	7	87	Square Bass
121	5	84	Brian Sync

CC00	CC32	PC	Sound Name
121	6	84	Arp Twins
121	7	84	LoFi Ethnic
Legacy: Ethnic			
121	2	77	Shakuhachi
121	10	25	Mandolin Key Off
121	1	109	War Pipes
121	7	104	Sitar Sitar
121	5	55	Hit in India
121	6	104	Tambra
121	3	104	Indian Stars
121	2	112	Bali Gamelan
Legacy: Bass			
121	1	32	Ac. Bass Buzz
121	6	36	Slap Bass 1
121	6	37	Slap Bass 2
121	7	37	Slap Bass 3
121	3	37	Dyna Slap Bass
121	4	37	Chorus Slap Bass
121	5	32	DarkWoody A.Bass
121	11	33	More mid! Bass
121	6	35	Woofer Pusher 2
121	4	35	Dark R&B Bass1
121	2	37	Dyna Bass
121	9	34	Ticktacing Bass
121	7	35	Fretless Bass 3
121	5	33	Stick Bass
121	5	35	Dark R&B Bass2
121	13	39	Auto Pilot 2
121	14	39	Bass4 Da Phunk
121	16	38	Dr. Octave
121	11	39	Monofilter Bass
121	9	39	Synth Bass 80ish
121	12	39	Reso Bass
121	10	39	Autofilter Bass
121	17	38	Drive Bass
121	6	39	Nasty Bass
121	4	39	Euro Bass
121	6	38	30303 Square
121	7	38	Bass Square
121	7	39	Phat Bass
121	12	38	Blind As A Bat
121	8	39	Poinker Bass
Legacy: Drum & SFX			
120	0	7	Standard Kit
120	0	50	Bdrum&Sdrum Kit
120	0	12	Room Kit 2
120	0	121	Power Kit 1
120	0	17	Power Kit 2
120	0	13	HipHop Kit 2
120	0	14	Techno Kit 2
120	0	15	Techno Kit 3
120	0	26	House Kit 1

CC00	CC32	PC	Sound Name
120	0	27	House Kit 2
120	0	28	House Kit 3
120	0	125	Brush Kit 1
120	0	41	Brush Kit 2
120	0	49	Orchestra Kit
121	4	12	Log Drum
121	2	117	Reverse Tom
121	3	118	Reverse Snare
121	2	119	Reverse Cymbal
121	1	119	Dragon Gong
121	6	126	Stadium
121	2	115	Castanets Plus
GM2/XG: Piano			
121	0	0	AcousticPiano GM
121	1	0	Ac. Piano Wide
121	2	0	Ac. Piano Dark
121	0	1	Bright Piano GM
121	1	1	Bright PianoWide
121	0	2	E.Grand Piano GM
121	1	2	E. Grand Wide
121	0	3	Honky-Tonk GM
121	1	3	Honky Wide
121	0	4	E. Piano 1 GM
121	1	4	Detuned EP 1
121	2	4	EP 1 Veloc. Mix
121	3	4	60's E. Piano
121	0	5	E. Piano 2 GM
121	1	5	Detuned EP 2
121	2	5	EP 2 Veloc. Mix
121	3	5	EP Legend
121	4	5	EP Phase
121	0	6	Harpsichord GM
121	1	6	Harpsi OctaveMix
121	2	6	Harpsi Wide
121	3	6	Harpsi Key Off
121	0	7	Clav GM
121	1	7	Pulse Clav
GM2/XG: Chromatic Percussion			
121	0	8	Celesta GM
121	0	9	Glockenspiel GM
121	0	10	Music Box GM
121	0	11	Vibraphone GM
121	1	11	Vibraphone Wide
121	0	12	Marimba GM
121	1	12	Marimba Wide
121	0	13	Xylophone GM
121	0	14	Tubular Bell GM
121	1	14	Church Bell
121	2	14	Carillon
121	0	15	Dulcimer GM
GM2/XG: Organ			
121	0	16	Drawbar Org GM

CC00	CC32	PC	Sound Name
121	1	16	Det.Drawbar Org
121	2	16	It. 60's Organ
121	3	16	Drawbar Org. 2
121	0	17	Perc.Organ GM
121	1	17	Det. Perc. Organ
121	2	17	Perc. Organ 2
121	0	18	Rock Organ GM
121	0	19	Church Organ GM
121	1	19	Church Oct. Mix
121	2	19	Detuned Church
121	0	20	Reed Organ GM
121	1	20	Puff Organ
121	0	21	Accordion GM
121	1	21	Accordion 2
121	0	22	Harmonica GM
121	0	23	Tango Accord.GM
GM2/XG: Guitar			
121	0	24	Nylon Guitar GM
121	1	24	Ukulele
121	2	24	Nylon Key Off
121	3	24	Nylon Guitar 2
121	0	25	Steel Guitar GM
121	1	25	12 Strings Gtr
121	2	25	Mandolin
121	3	25	Steel Gtr & Body
121	0	26	Jazz Guitar GM
121	1	26	Pedal Steel Gtr
121	0	27	Clean Guitar GM
121	1	27	Det.Clean El.Gtr
121	2	27	Mid Tone Gtr
121	0	28	Muted Guitar GM
121	1	28	Funky Cut El.Gtr
121	2	28	Mute Vel. El.Gtr
121	3	28	Jazz Man
121	0	29	Overdrive Gtr GM
121	1	29	Guitar Pinch
121	0	30	Distortion GtrGM
121	1	30	Feedback DistGtr
121	2	30	Dist. Rhythm Gtr
121	0	31	Gtr Harmonic GM
121	1	31	Guitar Feedback
GM2/XG: Bass			
121	0	32	Acoustic Bass GM
121	0	33	Finger Bass GM
121	1	33	Finger Slap Bass
121	0	34	Picked E.Bass GM
121	0	35	Fretless Bass GM
121	0	36	Slap Bass 1 GM
121	0	37	Slap Bass 2 GM
121	0	38	Synth Bass 1 GM
121	1	38	Synth Bass Warm
121	2	38	Synth Bass Reso
121	3	38	Clavi Bass
121	4	38	Hammer
121	0	39	Synth Bass 2 GM
121	1	39	SynthBass Attack
121	2	39	SynthBass Rubber
121	3	39	Attack Pulse
GM2/XG: Strings			
121	0	40	Violin GM
121	1	40	Slow Att. Violin
121	0	41	Viola GM
121	0	42	Cello GM
121	0	43	Contrabass GM
121	0	44	Tremolo Str. GM
121	0	45	Pizzicato Str.GM
121	0	46	Harp GM
121	1	46	Yang Chin
121	0	47	Timpani GM
GM2/XG: Ensemble			
121	0	48	Strings Ens.1 GM
121	1	48	Strings & Brass
121	2	48	60's Strings
121	0	49	Strings Ens.2 GM
121	0	50	Synth Strings1GM
121	1	50	Synth Strings 3
121	0	51	Synth Strings2GM
121	0	52	Choir Aahs GM
121	1	52	Choir Aahs 2
121	0	53	Voice Oohs GM
121	1	53	Humming
121	0	54	Synth Voice GM
121	1	54	Analog Voice
121	0	55	Orchestra Hit GM
121	1	55	Bass Hit Plus
121	2	55	6th Hit
121	3	55	Euro Hit
GM2/XG: Brass			
121	0	56	Trumpet GM
121	1	56	Dark Trumpet
121	0	57	Trombone GM
121	1	57	Trombone 2
121	2	57	Bright Trombone
121	0	58	Tuba GM
121	0	59	Muted Trumpet GM
121	1	59	Muted Trumpet 2
121	0	60	French Horn GM
121	1	60	FrenchHorn Warm
121	0	61	Brass Section GM
121	1	61	Brass Section 2
121	0	62	Synth Brass 1 GM
121	1	62	Synth Brass 3
121	2	62	Analog Brass 1
121	3	62	Jump Brass

CC00	CC32	PC	Sound Name
121	0	63	Synth Brass 2 GM
121	1	63	Synth Brass 4
121	2	63	Analog Brass 2
GM2/XG: Reed			
121	0	64	Soprano Sax GM
121	0	65	Alto Sax GM
121	0	66	Tenor Sax GM
121	0	67	Baritone Sax GM
121	0	68	Oboe GM
121	0	69	English Horn GM
121	0	70	Bassoon GM
121	0	71	Clarinet GM
GM2/XG: Pipe			
121	0	72	Piccolo GM
121	0	73	Flute GM
121	0	74	Recorder GM
121	0	75	Pan Flute GM
121	0	76	Blown Bottle GM
121	0	77	Shakuhachi GM
121	0	78	Whistle GM
121	0	79	Ocarina GM
GM2/XG: Synth Lead / Synth Pad			
121	0	80	Lead Square GM
121	1	80	Lead Square 2
121	2	80	Lead Sine
121	0	81	Lead Saw GM
121	1	81	Lead Saw 2
121	2	81	Lead Saw & Pulse
121	3	81	Lead Double Saw
121	4	81	Lead Seq. Analog
121	0	82	Calliope GM
121	0	83	Chiff GM
121	0	84	Charang GM
121	1	84	Wire Lead
121	0	85	Voice Lead GM
121	0	86	Fifths Lead GM
121	0	87	Bass & Lead GM
121	1	87	Lead Soft Wrl
121	0	88	New Age Pad GM
121	0	89	Warm Pad GM
121	1	89	Sine Pad
121	0	90	Polysynth GM
121	0	91	Choir Pad GM
121	1	91	Itopia Pad
121	0	92	Bowed Glass GM
121	0	93	Metallic Pad GM
121	0	94	Halo Pad GM
121	0	95	Sweep Pad GM
GM2/XG: Synth SFX			
121	0	96	Ice Rain GM
121	0	97	Soundtrack GM
121	0	98	Crystal GM

CC00	CC32	PC	Sound Name
121	1	98	Synth Mallet
121	0	99	Atmosphere GM
121	0	100	Brightness GM
121	0	101	Goblins GM
121	0	102	Echo Drops GM
121	1	102	Echo Bell
121	2	102	Echo Pan
121	0	103	Star Theme GM
GM2/XG: Ethnic			
121	0	104	Sitar GM
121	1	104	Sitar 2
121	0	105	Banjo GM
121	0	106	Shamisen GM
121	0	107	Koto GM
121	1	107	Taisho Koto
121	0	108	Kalimba GM
121	0	109	Bag Pipes GM
121	0	110	Fiddle GM
121	0	111	Shanai GM
GM2/XG: Percussive			
121	0	112	Tinkle Bell GM
121	0	113	Agogo GM
121	0	114	Steel Drums GM
121	0	115	Woodblock GM
121	1	115	Castanets
121	0	116	Taiko Drum GM
121	1	116	Concert BassDrum
121	0	117	Melodic Tom GM
121	1	117	Melodic Tom 2
121	0	118	Synth Drum GM
121	1	118	Rhythm Box Tom
121	2	118	Electric Drum
121	0	119	ReverseCymbalGM
GM2/XG: SFX			
121	0	120	Gtr FretNoise GM
121	1	120	Guitar Cut Noise
121	2	120	Ac. Bass String
121	0	121	Breath Noise GM
121	1	121	Flute Key Click
121	0	122	Seashore GM
121	1	122	Rain
121	2	122	Thunder
121	3	122	Wind
121	4	122	Stream
121	5	122	Bubble
121	0	123	Bird Tweet GM
121	1	123	Dog
121	2	123	Horse Gallop
121	3	123	Bird Tweet 2
121	0	124	Telephone GM
121	1	124	Telephone 2
121	2	124	Door Creaking

CC00	CC32	PC	Sound Name
121	3	124	Door
121	4	124	Scratch
121	5	124	Wind Chime
121	0	125	Helicopter GM
121	1	125	Car Engine
121	2	125	Car Stop
121	3	125	Car Pass
121	4	125	Car Crash
121	5	125	Siren
121	6	125	Train
121	7	125	Jetplane
121	8	125	Starship
121	9	125	Burst Noise
121	0	126	Applause GM
121	1	126	Laughing
121	2	126	Screaming
121	3	126	Punch
121	4	126	Heart Beat
121	5	126	Footsteps
121	0	127	Gun Shot GM
121	1	127	Machine Gun
121	2	127	Laser Gun
121	3	127	Explosion

CC00	CC32	PC	Sound Name
GM2/XG: Drum			
120	0	0	Standard Kit GM
120	0	8	Room Kit GM
120	0	16	Power Kit GM
120	0	24	Electro Kit GM
120	0	25	Analog Kit GM
120	0	32	Jazz Kit GM
120	0	40	Brush Kit GM
120	0	48	Orchestra Kit GM
120	0	56	SFX Kit GM
127	0	0	Standard Kit1 XG
127	0	9	Standard Kit2 XG
127	0	8	Room Kit XG
127	0	16	Rock Kit XG
127	0	24	Electro Kit XG
127	0	25	Analog Kit XG
127	0	32	Jazz Kit 1 XG
127	0	48	Jazz Kit 2 XG
127	0	40	Brush Kit XG
127	0	17	Classic Kit XG

Sounds (Program Change order)

The following table lists all Pa3X Factory Sounds in order of Bank Select-Program Change number.

Legend: *The table also includes MIDI data used to remotely select the Sounds.* ***CC00:*** *Control Change 0, or Bank Select MSB.* ***CC32:*** *Control Change 32, or Bank Select LSB.* ***PC:*** *Program Change.* ***Bank:*** *Sound Select button.*

CC00	CC32	PC	Name	Sound Family
121	0	0	AcousticPiano GM	GM2/XG: Piano
121	1	0	Ac. Piano Wide	GM2/XG: Piano
121	2	0	Ac. Piano Dark	GM2/XG: Piano
121	3	0	Grand Piano	Factory: Piano
121	4	0	Classic Piano	Factory: Piano
121	5	0	Jazz Piano	Factory: Piano
121	6	0	Piano & Vibes	Factory: Piano
121	7	0	Piano & Strings	Factory: Piano
121	8	0	Rock Piano	Factory: Piano
121	9	0	Grand&MovingPad	Factory: Piano
121	10	0	Grand Piano RX	Factory: Piano
121	11	0	Grand RX DEMO	Factory: Piano
121	12	0	Grand Piano Live	Factory: Piano
121	13	0	Concert Grand RX	Factory: Piano
121	0	1	Bright Piano GM	GM2/XG: Piano
121	1	1	Bright PianoWide	GM2/XG: Piano
121	2	1	Piano Pad 1	Legacy: Piano
121	3	1	Piano Pad 2	Legacy: Piano
121	4	1	Piano & Pad	Factory: Piano
121	5	1	Bright Piano RX	Factory: Piano
121	0	2	E.Grand Piano GM	GM2/XG: Piano
121	1	2	E. Grand Wide	GM2/XG: Piano
121	2	2	M1 Piano	Legacy: Piano
121	3	2	90's Piano	Legacy: Piano
121	4	2	2000's Piano	Legacy: Piano
121	5	2	Chorus Piano	Legacy: Piano
121	6	2	Piano Layers	Factory: Piano
121	7	2	Grand & FM Stack	Factory: Piano
121	8	2	G.Piano Stack 1	Factory: Piano
121	9	2	G.Piano Stack 2	Factory: Piano
121	10	2	E. Grand Phaser	Factory: Piano
121	0	3	Honky-Tonk GM	GM2/XG: Piano
121	1	3	Honky Wide	GM2/XG: Piano
121	2	3	Honky-Tonk RX	Factory: Piano
121	3	3	Ragtime Piano	Factory: Piano
121	0	4	E. Piano 1 GM	GM2/XG: Piano
121	1	4	Detuned EP 1	GM2/XG: Piano
121	2	4	EP 1 Veloc. Mix	GM2/XG: Piano
121	3	4	60's E. Piano	GM2/XG: Piano
121	4	4	Vintage EP	Legacy: E. Piano
121	5	4	Pro Dyno EP	Factory: E. Piano
121	6	4	Pro Stage EP	Factory: E. Piano
121	7	4	Studio EP	Factory: E. Piano
121	8	4	R&B E. Piano	Factory: E. Piano
121	9	4	Thin E. Piano	Factory: E. Piano
121	10	4	Dyno Tine EP 1	Factory: E. Piano
121	11	4	Club E. Piano	Factory: E. Piano
121	12	4	Classic Wurly 2	Factory: E. Piano
121	13	4	Soft Wurly	Legacy: E. Piano
121	14	4	Hard Wurly	Legacy: E. Piano
121	15	4	Velo Wurly	Legacy: E. Piano
121	16	4	Tremolo Wurly	Factory: E. Piano
121	17	4	Classic Wurly 1	Factory: E. Piano
121	18	4	Tine E.Piano RX	Factory: E. Piano
121	19	4	Tine E. Piano	Factory: E. Piano
121	20	4	Suit E.Piano 1	Factory: E. Piano
121	21	4	Suit E.Piano 2	Factory: E. Piano
121	22	4	Dyno Tine EP 2	Factory: E. Piano
121	23	4	Bell E. Piano 1	Factory: E. Piano
121	24	4	Bell E. Piano 2	Factory: E. Piano
121	25	4	EP+Damper 1 DNC	Factory: E. Piano
121	26	4	EP+Damper 2 DNC	Factory: E. Piano
121	27	4	Tine EP Phaser	Factory: E. Piano
121	28	4	Tine EP Dyno	Factory: E. Piano
121	29	4	Tine EP Amp/Phas	Factory: E. Piano
121	30	4	Dist. Tine EP	Factory: E. Piano
121	31	4	Wet Tine EP	Factory: E. Piano
121	32	4	Bell Tine EP	Factory: E. Piano
121	33	4	Suit Case88 EP1	Factory: E. Piano
121	34	4	Suit Case88 EP2	Factory: E. Piano
121	35	4	E.Piano RX Noise	Factory: E. Piano
121	36	4	Wurly Logic	Factory: E. Piano
121	37	4	Reed EP Clean	Factory: E. Piano
121	38	4	Wurly Amp	Factory: E. Piano
121	39	4	Wurly Clean 1	Factory: E. Piano
121	40	4	Wurly AmpChorus	Factory: E. Piano
121	41	4	Wurly Clean 2	Factory: E. Piano
121	42	4	Wurly RX Noise	Factory: E. Piano
121	43	4	Natural EP	Factory: E. Piano
121	44	4	Natural Wurly	Factory: E. Piano
121	0	5	E. Piano 2 GM	GM2/XG: Piano
121	1	5	Detuned EP 2	GM2/XG: Piano
121	2	5	EP 2 Veloc. Mix	GM2/XG: Piano
121	3	5	EP Legend	GM2/XG: Piano
121	4	5	EP Phase	GM2/XG: Piano
121	5	5	Syn Piano X	Legacy: E. Piano
121	6	5	Stereo Dig. EP	Legacy: E. Piano
121	7	5	Classic Dig. EP	Legacy: E. Piano
121	8	5	Hybrid EP	Legacy: E. Piano
121	9	5	Classic Tines	Factory: E. Piano
121	10	5	Phantom Tine	Legacy: E. Piano
121	11	5	DW8000 EP	Factory: E. Piano
121	12	5	Sweeping EP	Legacy: E. Piano
121	13	5	White Pad EP	Factory: E. Piano
121	14	5	Digi E. Piano	Factory: E. Piano
121	15	5	FM Pad EP	Factory: E. Piano

CC00	CC32	PC	Name	Sound Family
121	16	5	FM Stack EP	Legacy: E. Piano
121	17	5	VPM E. Piano	Factory: E. Piano
121	0	6	Harpsichord GM	GM2/XG: Piano
121	1	6	Harpsi OctaveMix	GM2/XG: Piano
121	2	6	Harpsi Wide	GM2/XG: Piano
121	3	6	Harpsi Key Off	GM2/XG: Piano
121	4	6	Harpsi Korg	Legacy: Piano
121	5	6	Harpsi 16' RX	Legacy: Piano
121	6	6	Harpsichord RX	Factory: Piano
121	0	7	Clav GM	GM2/XG: Piano
121	1	7	Pulse Clav	GM2/XG: Piano
121	2	7	Clav Wah RX	Factory: Piano
121	3	7	Clav Snap	Legacy: Piano
121	4	7	Sticky Clav	Legacy: Piano
121	5	7	Clav RX	Factory: Piano
121	6	7	Synth Clav RX	Factory: Piano
121	0	8	Celesta GM	GM2/XG: Chrom.Perc.
121	1	8	Celesta	Factory: Mallet & Bell
121	0	9	Glockenspiel GM	GM2/XG: Chrom.Perc.
121	1	9	Sistro	Factory: Mallet & Bell
121	2	9	Glockenspiel	Factory: Mallet & Bell
121	0	10	Music Box GM	GM2/XG: Chrom.Perc.
121	1	10	Orgel	Factory: Mallet & Bell
121	2	10	Music Box	Factory: Mallet & Bell
121	0	11	Vibraphone GM	GM2/XG: Chrom.Perc.
121	1	11	Vibraphone Wide	GM2/XG: Chrom.Perc.
121	2	11	Vibraphone 1	Factory: Mallet & Bell
121	3	11	Vibraphone 2	Legacy: Mallet & Bell
121	0	12	Marimba GM	GM2/XG: Chrom.Perc.
121	1	12	Marimba Wide	GM2/XG: Chrom.Perc.
121	2	12	Marimba Key Off	Factory: Mallet & Bell
121	3	12	Monkey Skuls	Legacy: Mallet & Bell
121	4	12	Log Drum	Legacy: Drum & SFX
121	5	12	Mallet Clock	Factory: Mallet & Bell
121	6	12	Balaphon	Factory: Mallet & Bell
121	7	12	Marimba	Factory: Mallet & Bell
121	0	13	Xylophone GM	GM2/XG: Chrom.Perc.
121	1	13	Xylophone	Factory: Mallet & Bell
121	0	14	Tubular Bell GM	GM2/XG: Chrom.Perc.
121	1	14	Church Bell	GM2/XG: Chrom.Perc.
121	2	14	Carillon	GM2/XG: Chrom.Perc.
121	3	14	Bells	Factory: Mallet & Bell
121	4	14	Tubular Bell	Factory: Mallet & Bell
121	0	15	Dulcimer GM	GM2/XG: Chrom.Perc.
121	1	15	Santur	Factory: Mallet & Bell
121	0	16	Drawbar Org GM	GM2/XG: Organ
121	1	16	Det.Drawbar Org	GM2/XG: Organ
121	2	16	It. 60's Organ	GM2/XG: Organ
121	3	16	Drawbar Org. 2	GM2/XG: Organ
121	4	16	Organ Low 1 V.	Factory: Organ
121	5	16	Dark Organ 2	Legacy: Organ
121	6	16	BX3 Full V.	Factory: Organ
121	7	16	Dark Organ 1	Legacy: Organ

CC00	CC32	PC	Name	Sound Family
121	8	16	Jazz Organ	Factory: Organ
121	9	16	Gospel Organ	Legacy: Organ
121	10	16	BX3 Rock 1 V.	Factory: Organ
121	11	16	VOX Legend	Legacy: Organ
121	12	16	Arabian Organ	Legacy: Organ
121	13	16	Gospel Organ V.	Factory: Organ
121	14	16	Drawbars Organ	Factory: Organ
121	15	16	Organ Low 2 V.	Factory: Organ
121	16	16	Organ Mid V.	Factory: Organ
121	17	16	Organ Hi V.	Factory: Organ
121	18	16	Drawbars Fast V.	Factory: Organ
121	19	16	Drawbars Slow V.	Factory: Organ
121	20	16	BX3 Jazz V.	Factory: Organ
121	21	16	BX3 Gospel V.	Factory: Organ
121	22	16	Theatre Organ 1	Factory: Organ
121	23	16	Theatre Organ 2	Factory: Organ
121	24	16	Theatre Organ 3	Legacy: Organ
121	25	16	Theatre Organ 4	Legacy: Organ
121	26	16	Tibia	Legacy: Organ
121	27	16	Tibia 16+8+4	Legacy: Organ
121	28	16	Tibia & Vox	Legacy: Organ
121	29	16	Post Horn Trem.	Legacy: Organ
121	30	16	Big Theatre Org.	Factory: Organ
121	31	16	Tibia & Kinura	Legacy: Organ
121	32	16	Tibia Vox Glock	Legacy: Organ
121	33	16	Organ Low+1'V.	Factory: Organ
121	34	16	Organ HiMix1 V.	Factory: Organ
121	35	16	Organ HiMix2 V.	Factory: Organ
121	36	16	Organ 16+51/3 V.	Factory: Organ
121	0	17	Perc.Organ GM	GM2/XG: Organ
121	1	17	Det. Perc. Organ	GM2/XG: Organ
121	2	17	Perc. Organ 2	GM2/XG: Organ
121	3	17	Old Wheels	Legacy: Organ
121	4	17	Organ LowPc V.	Factory: Organ
121	5	17	M1 Organ	Legacy: Organ
121	6	17	Techno Org.Bass	Legacy: Organ
121	7	17	BX3 Short Decay	Legacy: Organ
121	8	17	Rotary Organ	Legacy: Organ
121	9	17	Perc. Organ 2V.	Factory: Organ
121	10	17	Perc. Organ 1	Factory: Organ
121	11	17	Perc. Organ 3V.	Factory: Organ
121	12	17	Classic Perc.Org	Factory: Organ
121	0	18	Rock Organ GM	GM2/XG: Organ
121	1	18	BX3 Rock 2 V.	Factory: Organ
121	2	18	Killer B	Legacy: Organ
121	3	18	Dirty B	Legacy: Organ
121	4	18	Classic Click	Legacy: Organ
121	5	18	BX3 Rock 3 V.	Factory: Organ
121	6	18	Super BX Perc.	Legacy: Organ
121	7	18	Dirty JazzOrgan	Legacy: Organ
121	8	18	Perc.Short Deca	Legacy: Organ
121	9	18	BX3 Jazz Pc. V.	Factory: Organ
121	10	18	Jimmy Organ V.	Factory: Organ

CC00	CC32	PC	Name	Sound Family
121	11	18	Rock Organ 2	Legacy: Organ
121	12	18	BX3 Rock 4 V.	Factory: Organ
121	13	18	Jimmy Organ DNC	Factory: Organ
121	0	19	Church Organ GM	GM2/XG: Organ
121	1	19	Church Oct. Mix	GM2/XG: Organ
121	2	19	Detuned Church	GM2/XG: Organ
121	3	19	Pipe Mixture	Factory: Organ
121	4	19	Church Pipes	Factory: Organ
121	5	19	Full Pipes	Factory: Organ
121	6	19	Pipe Tutti 1	Factory: Organ
121	7	19	Positive Organ	Factory: Organ
121	8	19	Pipe Tutti 2	Factory: Organ
121	9	19	Pipe Tutti 3	Factory: Organ
121	10	19	Pipe Tutti 4	Factory: Organ
121	0	20	Reed Organ GM	GM2/XG: Organ
121	1	20	Puff Organ	GM2/XG: Organ
121	2	20	Small Pipe	Factory: Organ
121	3	20	Flauto Pipes	Factory: Organ
121	4	20	Pipe Flute 1	Factory: Organ
121	5	20	Pipe Flute 2	Factory: Organ
121	0	21	Accordion GM	GM2/XG: Organ
121	1	21	Accordion 2	GM2/XG: Organ
121	2	21	Akordeon	Legacy: Accordion
121	3	21	Musette 1	Factory: Accordion
121	4	21	Musette 2	Factory: Accordion
121	5	21	Musette Clar.	Legacy: Accordion
121	6	21	Fisa 16,8'	Factory: Accordion
121	7	21	Fisa 16,4'	Factory: Accordion
121	8	21	Fisa Master	Factory: Accordion
121	9	21	Cassotto	Factory: Accordion
121	10	21	Arabic Accordion	Legacy: Accordion
121	11	21	Sweet Musette	Factory: Accordion
121	12	21	Cassotto 16'	Factory: Accordion
121	13	21	Cassotto Or.Tune	Factory: Accordion
121	14	21	Cassotto NorTune	Legacy: Accordion
121	15	21	Detune Accordion	Legacy: Accordion
121	16	21	2 Voices Musette	Factory: Accordion
121	17	21	3 Voices Musette	Factory: Accordion
121	18	21	French Musette	Factory: Accordion
121	19	21	Acc.Clarinet OT	Factory: Accordion
121	20	21	Acc. Clarinet NT	Legacy: Accordion
121	21	21	Acc. Piccolo OT	Factory: Accordion
121	22	21	Acc. Piccolo NT	Legacy: Accordion
121	23	21	Master Accordion	Factory: Accordion
121	24	21	Accordion	Factory: Accordion
121	25	21	Steirisch.Akk.1	Factory: Accordion
121	26	21	Steirisch.Akk.2	Factory: Accordion
121	27	21	Steirisch.Akk.3	Factory: Accordion
121	28	21	Steirisch.Akk.4	Factory: Accordion
121	29	21	Classic Musette	Factory: Accordion
121	0	22	Harmonica GM	GM2/XG: Organ
121	1	22	Sweet Harmonica	Legacy: Accordion
121	2	22	Harmonica	Factory: Accordion
121	3	22	Harmonica AT 1	Factory: Accordion
121	4	22	Harmonica AT 2	Factory: Accordion
121	5	22	Harmonica DNC	Factory: Accordion
121	6	22	Jazz Harm. DNC	Factory: Accordion
121	7	22	Sweet Harm. DNC	Factory: Accordion
121	8	22	Melodica DNC	Factory: Accordion
121	0	23	Tango Accord.GM	GM2/XG: Organ
121	1	23	Fisa Tango!	Factory: Accordion
121	2	23	Accordion 16,8'	Factory: Accordion
121	3	23	Accordion16,8,4'	Factory: Accordion
121	4	23	Acc.16,8' & Bass	Factory: Accordion
121	5	23	Accordion Bass	Factory: Accordion
121	6	23	Acc.Voice Change	Factory: Accordion
121	7	23	Accordion 16,4'	Factory: Accordion
121	8	23	Acc.16,8,4' Plus	Factory: Accordion
121	9	23	Acc. & Acc. Bass	Factory: Accordion
121	10	23	Tango Accordion	Factory: Accordion
121	0	24	Nylon Guitar GM	GM2/XG: Guitar
121	1	24	Ukulele	GM2/XG: Guitar
121	2	24	Nylon Key Off	GM2/XG: Guitar
121	3	24	Nylon Guitar 2	GM2/XG: Guitar
121	4	24	Nylon Bossa	Legacy: Guitar
121	5	24	Ac.Guitar KeyOff	Factory: Guitar
121	6	24	Spanish Guitar	Legacy: Guitar
121	7	24	Guitar Strings	Legacy: Guitar
121	8	24	Nylon Gtr Pro1	Factory: Guitar
121	9	24	Brazilian Guitar	Legacy: Guitar
121	10	24	Nylon Vel. Harm.	Legacy: Guitar
121	11	24	Nylon Gtr Pro2	Factory: Guitar
121	12	24	Nylon Gtr RX1	Factory: Guitar
121	13	24	Nylon Gtr RX2	Factory: Guitar
121	14	24	Nylon Slide Pro	Factory: Guitar
121	15	24	Nylon Guitar	Legacy: Guitar
121	16	24	RealNylon Gtr ST	Factory: Guitar
121	17	24	Real Nylon Gtr	Factory: Guitar
121	18	24	Nylon Guitar DNC	Factory: Guitar
121	19	24	Natural NylonDNC	Factory: Guitar
121	20	24	Concert Gtr DNC	Factory: Guitar
121	21	24	Concert Gtr Pro	Factory: Guitar
121	22	24	Concert 12Str RX	Factory: Guitar
121	23	24	Cavaquinho 1	Factory: Ethnic
121	24	24	Cavaquinho 2	Factory: Ethnic
121	25	24	Ukulele	Factory: Ethnic
121	0	25	Steel Guitar GM	GM2/XG: Guitar
121	1	25	12 Strings Gtr	GM2/XG: Guitar
121	2	25	Mandolin	GM2/XG: Guitar
121	3	25	Steel Gtr & Body	GM2/XG: Guitar
121	4	25	Steel Guitar 1	Factory: Guitar
121	5	25	Steel 12 Strings	Factory: Guitar
121	6	25	Hackbrett	Legacy: Guitar
121	7	25	Finger Key Off	Legacy: Guitar
121	8	25	Finger Tips	Legacy: Guitar
121	9	25	Steel Folk Gtr	Legacy: Guitar

CC00	CC32	PC	Name	Sound Family
121	10	25	Mandolin Key Off	Legacy: Ethnic
121	11	25	Mandolin Trem.	Factory: Ethnic
121	12	25	Reso Guitar	Legacy: Guitar
121	13	25	Steel Slide Pro1	Factory: Guitar
121	14	25	Steel Slide Pro2	Factory: Guitar
121	15	25	Steel Guitar RX1	Factory: Guitar
121	16	25	Steel Guitar RX2	Factory: Guitar
121	17	25	12 Strings Pro	Factory: Guitar
121	18	25	12 Strings RX	Factory: Guitar
121	19	25	Steel Guitar Pro	Factory: Guitar
121	20	25	Steel Guitar 2	Factory: Guitar
121	21	25	Pop Steel Gtr 1	Factory: Guitar
121	22	25	Pop Steel Gtr 2	Factory: Guitar
121	23	25	Pop Steel Slide	Legacy: Guitar
121	24	25	Pop SteelGtr RX1	Factory: Guitar
121	25	25	Pop SteelGtr RX2	Factory: Guitar
121	26	25	Mandolin Ens. 1	Factory: Ethnic
121	27	25	Mandolin Ens. 2	Factory: Ethnic
121	28	25	RealSteel Gtr ST	Factory: Guitar
121	29	25	RealFolk Gtr ST1	Factory: Guitar
121	30	25	RealFolk Gtr ST2	Factory: Guitar
121	31	25	Real Steel Gtr	Factory: Guitar
121	32	25	Real Folk Gtr	Factory: Guitar
121	33	25	Real 12 Strings	Factory: Guitar
121	34	25	RealFolk Gtr DNC	Factory: Guitar
121	35	25	Steel Gtr RX	Factory: Guitar
121	36	25	ClassicSteel DNC	Factory: Guitar
121	37	25	Classic12Str Pro	Factory: Guitar
121	38	25	Classic12Str DNC	Factory: Guitar
121	39	25	Classic 12Str RX	Factory: Guitar
121	40	25	Mandolin DNC	Factory: Ethnic
121	41	25	Mandolin Orch.1	Factory: Ethnic
121	42	25	Mandolin Orch.2	Factory: Ethnic
121	43	25	Mandolin	Factory: Ethnic
121	0	26	Jazz Guitar GM	GM2/XG: Guitar
121	1	26	Pedal Steel Gtr	GM2/XG: Guitar
121	2	26	Club Jazz Gtr 1	Factory: Guitar
121	3	26	Club Jazz Gtr 2	Legacy: Guitar
121	4	26	Pedal Steel	Factory: Guitar
121	5	26	Soft Jazz Guitar	Factory: Guitar
121	6	26	JazzGtr SlidePro	Factory: Guitar
121	7	26	Jazz Gtr DNC	Factory: Guitar
121	0	27	Clean Guitar GM	GM2/XG: Guitar
121	1	27	Det.Clean El.Gtr	GM2/XG: Guitar
121	2	27	Mid Tone Gtr	GM2/XG: Guitar
121	3	27	Chorus Guitar	Factory: Guitar
121	4	27	Vintage S. 2	Factory: Guitar
121	5	27	Processed E.Gtr	Factory: Guitar
121	6	27	Single Coil	Factory: Guitar
121	7	27	New Stra.Guitar	Factory: Guitar
121	8	27	Guitarish	Legacy: Guitar
121	9	27	L&R E.Guitar 1	Factory: Guitar
121	10	27	L&R E.Guitar 2	Legacy: Guitar

CC00	CC32	PC	Name	Sound Family
121	11	27	Country Nu	Legacy: Guitar
121	12	27	Funky Wah RX	Factory: Guitar
121	13	27	Clean Gtr Pro 1	Factory: Guitar
121	14	27	Single Coil Pro	Factory: Guitar
121	15	27	Clean Gtr Pro 2	Factory: Guitar
121	16	27	Stra. Vel. Pro	Factory: Guitar
121	17	27	Stra. Gtr Slide	Legacy: Guitar
121	18	27	Chorus Gtr Pro	Factory: Guitar
121	19	27	Vintage S. 1	Factory: Guitar
121	20	27	Clean Guitar 1	Factory: Guitar
121	21	27	Solid Guitar	Factory: Guitar
121	22	27	Clean Jazz 1	Factory: Guitar
121	23	27	Clean Jazz 2	Factory: Guitar
121	24	27	'54 E. Guitar	Factory: Guitar
121	25	27	Clean Guitar 2	Legacy: Guitar
121	26	27	Tel. Midddle	Legacy: Guitar
121	27	27	Tel. Bridge	Legacy: Guitar
121	28	27	Real El. Gtr ST1	Factory: Guitar
121	29	27	Real El. Gtr ST2	Factory: Guitar
121	30	27	Real El. Guitar1	Factory: Guitar
121	31	27	Real El. Guitar2	Factory: Guitar
121	32	27	Stra. Gtr 1 DNC	Factory: Guitar
121	33	27	Stra. Gtr 2 DNC	Factory: Guitar
121	34	27	Chorus Gtr DNC	Factory: Guitar
121	35	27	E.Gtr Ch/Dly DNC	Factory: Guitar
121	36	27	Clean Funk RX1	Factory: Guitar
121	37	27	E.Gtr Amp DNC	Factory: Guitar
121	0	28	Muted Guitar GM	GM2/XG: Guitar
121	1	28	Funky Cut El.Gtr	GM2/XG: Guitar
121	2	28	Mute Vel. El.Gtr	GM2/XG: Guitar
121	3	28	Jazz Man	GM2/XG: Guitar
121	4	28	R&R Guitar	Factory: Guitar
121	5	28	Stra. Chime	Legacy: Guitar
121	6	28	Clean Mute Gtr	Factory: Guitar
121	7	28	Rhythm E.Guitar	Legacy: Guitar
121	8	28	Clean Funk	Legacy: Guitar
121	9	28	Disto Mute	Factory: Guitar
121	10	28	Clean Funk RX1	Factory: Guitar
121	11	28	Clean Funk RX2	Factory: Guitar
121	12	28	Funk Stein RX1	Factory: Guitar
121	13	28	Funk Stein RX2	Factory: Guitar
121	14	28	Clean Guitar RX1	Factory: Guitar
121	15	28	Clean Guitar RX2	Factory: Guitar
121	16	28	Clean Guitar RX3	Factory: Guitar
121	17	28	Clean Guitar RX4	Factory: Guitar
121	18	28	Clean Guitar RX5	Factory: Guitar
121	19	28	Muted Guitar	Legacy: Guitar
121	20	28	Clean Guitar RX6	Factory: Guitar
121	21	28	5th Mute Gtr	Factory: Guitar
121	0	29	Overdrive Gtr GM	GM2/XG: Guitar
121	1	29	Guitar Pinch	GM2/XG: Guitar
121	2	29	Soft Overdrive	Factory: Guitar
121	3	29	Crunch Gtr DNC	Factory: Guitar

CC00	CC32	PC	Name	Sound Family
121	4	29	Lead Guitar DNC	Factory: Guitar
121	0	30	Distortion GtrGM	GM2/XG: Guitar
121	1	30	Feedback DistGtr	GM2/XG: Guitar
121	2	30	Dist. Rhythm Gtr	GM2/XG: Guitar
121	3	30	Joystick Gtr Y-	Legacy: Guitar
121	4	30	Power Chords	Factory: Guitar
121	5	30	Mute Monster	Factory: Guitar
121	6	30	Wet Dist. Guitar	Legacy: Guitar
121	7	30	Solo Dist.Guitar	Legacy: Guitar
121	8	30	Stereo Dist.Gtr	Factory: Guitar
121	9	30	Dist. Guitar RX1	Factory: Guitar
121	10	30	Dist. Guitar RX2	Factory: Guitar
121	11	30	Dist. Clean Gtr	Factory: Guitar
121	12	30	Dist. Steel Gtr	Legacy: Guitar
121	13	30	Dist. Gtr 1 DNC	Factory: Guitar
121	14	30	Dist. Gtr 2 DNC	Factory: Guitar
121	15	30	Power Chords RX	Factory: Guitar
121	0	31	Gtr Harmonic GM	GM2/XG: Guitar
121	1	31	Guitar Feedback	GM2/XG: Guitar
121	2	31	E.Gtr Harmonics	Legacy: Guitar
121	0	32	Acoustic Bass GM	GM2/XG: Bass
121	1	32	Ac. Bass Buzz	Legacy: Bass
121	2	32	Bass & Ride 2	Factory: Bass
121	3	32	Acous. Bass Pro1	Factory: Bass
121	4	32	Acous. Bass Pro2	Factory: Bass
121	5	32	DarkWoody A.Bass	Legacy: Bass
121	6	32	Bass & Ride 1	Factory: Bass
121	7	32	Acous. Bass RX	Factory: Bass
121	8	32	Acoustic Bass	Factory: Bass
121	9	32	Jazz Bass	Factory: Bass
121	10	32	Organ Pedal 1	Factory: Bass
121	11	32	Organ Pedal 2	Factory: Bass
121	12	32	Real Ac.Bass RX	Factory: Bass
121	13	32	Real Ac.Bass	Factory: Bass
121	0	33	Finger Bass GM	GM2/XG: Bass
121	1	33	Finger Slap Bass	GM2/XG: Bass
121	2	33	Finger E.Bass 1	Factory: Bass
121	3	33	Finger E.Bass 2	Factory: Bass
121	4	33	Finger E.Bass 3	Factory: Bass
121	5	33	Stick Bass	Legacy: Bass
121	6	33	Finger Bass 1	Factory: Bass
121	7	33	Finger Bass 2	Factory: Bass
121	8	33	Chorus Fing.Bass	Factory: Bass
121	9	33	Bright Finger B.	Factory: Bass
121	10	33	Finger Bass 3	Factory: Bass
121	11	33	More Mid! Bass	Legacy: Bass
121	12	33	Finger Slap	Factory: Bass
121	13	33	Finger Bass RX	Factory: Bass
121	14	33	FingerB.& Guitar	Factory: Bass
121	15	33	Finger Bass 4	Factory: Bass
121	16	33	Finger Bass DNC	Factory: Bass
121	17	33	Vintage P.Round	Factory: Bass
121	18	33	Vintage P. Flat	Factory: Bass

CC00	CC32	PC	Name	Sound Family
121	19	33	5 Strings BassRX	Factory: Bass
121	20	33	Dark E.Bass 1	Factory: Bass
121	21	33	Finger Jazz B.RX	Factory: Bass
121	22	33	Dark E.Bass DNC	Factory: Bass
121	23	33	Vintage P. Bass	Factory: Bass
121	24	33	Dark E.Bass 2	Factory: Bass
121	0	34	Picked E.Bass GM	GM2/XG: Bass
121	1	34	Picked E.Bass 1	Factory: Bass
121	2	34	Picked E.Bass 2	Factory: Bass
121	3	34	Stein Bass	Factory: Bass
121	4	34	Bass & Guitar	Factory: Bass
121	5	34	Bass Mute	Factory: Bass
121	6	34	Bass&Gtr Double	Factory: Bass
121	7	34	Pick Bass 1	Factory: Bass
121	8	34	Pick Bass 2	Factory: Bass
121	9	34	Ticktacing Bass	Legacy: Bass
121	10	34	Picked Bass RX	Factory: Bass
121	11	34	Picked E.Bass 3	Factory: Bass
121	12	34	Vintage P. Pick	Factory: Bass
121	13	34	Picked Jazz Bass	Factory: Bass
121	0	35	Fretless Bass GM	GM2/XG: Bass
121	1	35	Fretless Bass 1	Factory: Bass
121	2	35	Fretless Bass 2	Factory: Bass
121	3	35	Sweet Fretless	Factory: Bass
121	4	35	Dark R&B Bass1	Legacy: Bass
121	5	35	Dark R&B Bass2	Legacy: Bass
121	6	35	Woofer Pusher 2	Legacy: Bass
121	7	35	Fretless Bass 3	Legacy: Bass
121	8	35	MM Fretless B.RX	Factory: Bass
121	9	35	Woofer Pusher 1	Factory: Bass
121	0	36	Slap Bass 1 GM	GM2/XG: Bass
121	1	36	Super Bass 1	Factory: Bass
121	2	36	Super Bass 2	Factory: Bass
121	3	36	FunkSlap Bass RX	Factory: Bass
121	4	36	SlapFing Bass RX	Factory: Bass
121	5	36	SlapPick Bass RX	Factory: Bass
121	6	36	Slap Bass 1	Legacy: Bass
121	7	36	Dark Bs&Slp DNC	Factory: Bass
121	0	37	Slap Bass 2 GM	GM2/XG: Bass
121	1	37	Thumb Bass	Factory: Bass
121	2	37	Dyna Bass	Legacy: Bass
121	3	37	Dyna Slap Bass	Legacy: Bass
121	4	37	Chorus Slap Bass	Legacy: Bass
121	5	37	The Other Slap	Factory: Bass
121	6	37	Slap Bass 2	Legacy: Bass
121	7	37	Slap Bass 3	Legacy: Bass
121	0	38	Synth Bass 1 GM	GM2/XG: Bass
121	1	38	Synth Bass Warm	GM2/XG: Bass
121	2	38	Synth Bass Reso	GM2/XG: Bass
121	3	38	Clavi Bass	GM2/XG: Bass
121	4	38	Hammer	GM2/XG: Bass
121	5	38	30303 Bass	Factory: Bass
121	6	38	30303 Square	Legacy: Bass

CC00	CC32	PC	Name	Sound Family
121	7	38	Bass Square	Legacy: Bass
121	8	38	Syn Bass Reso	Factory: Bass
121	9	38	Digi Bass 1	Factory: Bass
121	10	38	Digi Bass 2	Factory: Bass
121	11	38	Digi Bass 3	Factory: Bass
121	12	38	Blind As A Bat	Legacy: Bass
121	13	38	Jungle Bass	Factory: Bass
121	14	38	Auto Pilot 1	Legacy: Synth Lead
121	15	38	Hybrid Bass	Factory: Bass
121	16	38	Dr. Octave	Legacy: Bass
121	17	38	Drive Bass	Legacy: Bass
121	18	38	Synth Bass 1	Factory: Bass
121	0	39	Synth Bass 2 GM	GM2/XG: Bass
121	1	39	SynthBass Attack	GM2/XG: Bass
121	2	39	SynthBass Rubber	GM2/XG: Bass
121	3	39	Attack Pulse	GM2/XG: Bass
121	4	39	Euro Bass	Legacy: Bass
121	5	39	Jungle Rez	Factory: Bass
121	6	39	Nasty Bass	Legacy: Bass
121	7	39	Phat Bass	Legacy: Bass
121	8	39	Poinker Bass	Legacy: Bass
121	9	39	Synth Bass 80ish	Legacy: Bass
121	10	39	Autofilter Bass	Legacy: Bass
121	11	39	Monofilter Bass	Legacy: Bass
121	12	39	Reso Bass	Legacy: Bass
121	13	39	Auto Pilot 2	Legacy: Bass
121	14	39	Bass4 Da Phunk	Legacy: Bass
121	15	39	Synth Bass 2	Factory: Bass
121	0	40	Violin GM	GM2/XG: Strings
121	1	40	Slow Att. Violin	GM2/XG: Strings
121	2	40	Violin Expr. 2	Factory: Strings & Voc.
121	3	40	Slow Violin	Factory: Strings & Voc.
121	4	40	Violin Expr. 3	Factory: Strings & Voc.
121	5	40	Violin Expr. DNC	Factory: Strings & Voc.
121	6	40	Conc.Violin DNC	Factory: Strings & Voc.
121	7	40	Real Violin DNC	Factory: Strings & Voc.
121	8	40	Violin Expr. 1	Factory: Strings & Voc.
121	0	41	Viola GM	GM2/XG: Strings
121	1	41	Viola Expr.	Factory: Strings & Voc.
121	2	41	Violin & Viola	Factory: Strings & Voc.
121	0	42	Cello GM	GM2/XG: Strings
121	1	42	Cello	Factory: Strings & Voc.
121	0	43	Contrabass GM	GM2/XG: Strings
121	1	43	Class.Contrabass	Factory: Strings & Voc.
121	0	44	Tremolo Str. GM	GM2/XG: Strings
121	1	44	Tremolo Strings	Factory: Strings & Voc.
121	0	45	Pizzicato Str.GM	GM2/XG: Strings
121	1	45	Pizz. Ensemble	Factory: Strings & Voc.
121	2	45	Pizz. Section	Factory: Strings & Voc.
121	3	45	Double Strings	Legacy: Strings & Voc.
121	0	46	Harp GM	GM2/XG: Strings
121	1	46	Yang Chin	GM2/XG: Strings
121	2	46	Classic Harp	Factory: Strings & Voc.

CC00	CC32	PC	Name	Sound Family
121	0	47	Timpani GM	GM2/XG: Strings
121	0	48	Strings Ens.1 GM	GM2/XG: Ensemble
121	1	48	Strings & Brass	GM2/XG: Ensemble
121	2	48	60's Strings	GM2/XG: Ensemble
121	3	48	Stereo Strings	Legacy: Strings & Voc.
121	4	48	Legato Strings	Legacy: Strings & Voc.
121	5	48	i3 Strings	Legacy: Strings & Voc.
121	6	48	N Strings	Legacy: Strings & Voc.
121	7	48	Arco Strings	Legacy: Strings & Voc.
121	8	48	Octave Strings	Factory: Strings & Voc.
121	9	48	Strings Quartet	Factory: Strings & Voc.
121	10	48	Symphonic Bows	Factory: Strings & Voc.
121	11	48	Ensemble & Solo	Factory: Strings & Voc.
121	12	48	Chamber Strings	Factory: Strings & Voc.
121	13	48	Arabic Strings	Legacy: Strings & Voc.
121	14	48	Orchestra Tutti1	Factory: Strings & Voc.
121	15	48	Strings & Horns	Factory: Strings & Voc.
121	16	48	Orch. & Oboe 1	Factory: Strings & Voc.
121	17	48	Orch. & Oboe 2	Factory: Strings & Voc.
121	18	48	Strings & Glock.	Factory: Strings & Voc.
121	19	48	Orchestra Tutti2	Factory: Strings & Voc.
121	20	48	Orchestra&Flute	Factory: Strings & Voc.
121	21	48	Strings Ens. 1	Legacy: Strings & Voc.
121	22	48	Strings Ens. RX	Factory: Strings & Voc.
121	23	48	Concert Str.RX	Factory: Strings & Voc.
121	0	49	Strings Ens.2 GM	GM2/XG: Ensemble
121	1	49	Sweeper Strings	Legacy: Strings & Voc.
121	2	49	Full Strings	Factory: Strings & Voc.
121	3	49	Strings Ens. 2	Legacy: Strings & Voc.
121	4	49	Spiccato Strings	Factory: Strings & Voc.
121	5	49	Movie Strings 1	Factory: Strings & Voc.
121	6	49	Movie Strings 2	Factory: Strings & Voc.
121	7	49	Movie Str.1 DNC	Factory: Strings & Voc.
121	8	49	Movie Str.2 DNC	Factory: Strings & Voc.
121	9	49	Real Strings 1	Factory: Strings & Voc.
121	10	49	Real Strings 2	Factory: Strings & Voc.
121	11	49	Concert Strings	Factory: Strings & Voc.
121	0	50	Synth Strings1GM	GM2/XG: Ensemble
121	1	50	Synth Strings 3	GM2/XG: Ensemble
121	2	50	Analog Strings 2	Legacy: Strings & Voc.
121	3	50	Analog Velve	Legacy: Strings & Voc.
121	4	50	Odissey	Legacy: Strings & Voc.
121	5	50	Analog Strings 1	Factory: Strings & Voc.
121	6	50	Synth Strings 1	Factory: Strings & Voc.
121	0	51	Synth Strings2GM	GM2/XG: Ensemble
121	1	51	Synth Strings 2	Legacy: Strings & Voc.
121	0	52	Choir Aahs GM	GM2/XG: Ensemble
121	1	52	Choir Aahs 2	GM2/XG: Ensemble
121	2	52	Ooh Voices	Factory: Strings & Voc.
121	3	52	Ooh Slow Voice	Factory: Strings & Voc.
121	4	52	Take Voices 1	Factory: Strings & Voc.
121	5	52	Take Voices 2	Legacy: Strings & Voc.
121	6	52	Ooh Choir	Factory: Strings & Voc.

CC00	CC32	PC	Name	Sound Family
121	7	52	Aah Choir	Legacy: Strings & Voc.
121	8	52	Wuuh Choir	Factory: Strings & Voc.
121	9	52	Oh-Ah Voices	Factory: Strings & Voc.
121	10	52	Slow Choir	Legacy: Strings & Voc.
121	11	52	Grand Choir	Factory: Strings & Voc.
121	12	52	Choir Light	Factory: Strings & Voc.
121	13	52	Strings Choir	Legacy: Strings & Voc.
121	14	52	Femal&Male Scat	Factory: Strings & Voc.
121	15	52	Femal Scat	Factory: Strings & Voc.
121	16	52	Male Scat	Factory: Strings & Voc.
121	17	52	Scat V.& Bass1	Factory: Strings & Voc.
121	18	52	Scat V.& Bass2	Factory: Strings & Voc.
121	19	52	Scat Voices RX	Factory: Strings & Voc.
121	20	52	Scat Voices DNC	Factory: Strings & Voc.
121	21	52	Cycle Scat 1	Factory: Strings & Voc.
121	22	52	Cycle Scat 2	Factory: Strings & Voc.
121	23	52	Little Boy Voice	Factory: Strings & Voc.
121	0	53	Voice Oohs GM	GM2/XG: Ensemble
121	1	53	Humming	GM2/XG: Ensemble
121	2	53	Doolally	Legacy: Strings & Voc.
121	3	53	Airways	Factory: Strings & Voc.
121	4	53	SopranoVox1 DNC	Factory: Strings & Voc.
121	5	53	SopranoVox2 DNC	Factory: Strings & Voc.
121	0	54	Synth Voice GM	GM2/XG: Ensemble
121	1	54	Analog Voice	GM2/XG: Ensemble
121	2	54	Vocalesque	Factory: Strings & Voc.
121	3	54	Vocalscape	Factory: Strings & Voc.
121	4	54	Classic Vox	Legacy: Strings & Voc.
121	5	54	Dream Voice	Legacy: Strings & Voc.
121	6	54	Synth Voices	Factory: Strings & Voc.
121	0	55	Orchestra Hit GM	GM2/XG: Ensemble
121	1	55	Bass Hit Plus	GM2/XG: Ensemble
121	2	55	6th Hit	GM2/XG: Ensemble
121	3	55	Euro Hit	GM2/XG: Ensemble
121	4	55	Brass Impact	Factory: Brass
121	5	55	Hit in India	Legacy: Ethnic
121	6	55	Wild Arp	Legacy: Synth Lead
121	7	55	Flip Blip	Legacy: Synth Lead
121	8	55	Netherland Hit	Legacy: Brass
121	0	56	Trumpet GM	GM2/XG: Brass
121	1	56	Dark Trumpet	GM2/XG: Brass
121	2	56	Trumpet Overb.	Factory: Trpt & Trbn.
121	3	56	Mono Trumpet	Legacy: Trpt & Trbn.
121	4	56	Trumpet Expr.2	Factory: Trpt & Trbn.
121	5	56	Trumpet Pitch	Factory: Trpt & Trbn.
121	6	56	Dual Trumpets	Factory: Trpt & Trbn.
121	7	56	Flugel Horn	Legacy: Trpt & Trbn.
121	8	56	Warm Flugel	Legacy: Trpt & Trbn.
121	9	56	BeBop Cornet	Legacy: Trpt & Trbn.
121	10	56	Trumpet Pro 1	Factory: Trpt & Trbn.
121	11	56	Trumpet Pro 2	Factory: Trpt & Trbn.
121	12	56	Sweet FlugelHorn	Factory: Trpt & Trbn.
121	13	56	Flugel Horn Pro	Factory: Trpt & Trbn.

CC00	CC32	PC	Name	Sound Family
121	14	56	Trumpet	Factory: Trpt & Trbn.
121	15	56	Trumpet Expr.1	Factory: Trpt & Trbn.
121	16	56	Trumpet Pro 3	Factory: Trpt & Trbn.
121	17	56	Alp Trumpet	Factory: Trpt & Trbn.
121	18	56	Trumpet Shake Y+	Factory: Trpt & Trbn.
121	19	56	Concert Trumpet	Factory: Trpt & Trbn.
121	20	56	Concert Trp. Pro	Factory: Trpt & Trbn.
121	21	56	Cornet Expr.	Factory: Trpt & Trbn.
121	22	56	Cornet Pro 1	Factory: Trpt & Trbn.
121	23	56	Cornet Pro 2	Factory: Trpt & Trbn.
121	24	56	Jazz Trumpet DNC	Factory: Trpt & Trbn.
121	25	56	Jazz Cornet DNC	Factory: Trpt & Trbn.
121	26	56	Trumpet Expr.DNC	Factory: Trpt & Trbn.
121	0	57	Trombone GM	GM2/XG: Brass
121	1	57	Trombone 2	GM2/XG: Brass
121	2	57	Bright Trombone	GM2/XG: Brass
121	3	57	Hard Trombone	Factory: Trpt & Trbn.
121	4	57	Soft Trombone	Legacy: Trpt & Trbn.
121	5	57	Pitch Trombone	Legacy: Trpt & Trbn.
121	6	57	Trombone Expr. 1	Factory: Trpt & Trbn.
121	7	57	Trombone Expr. 2	Factory: Trpt & Trbn.
121	8	57	Trombone Vel. 1	Factory: Trpt & Trbn.
121	9	57	Trombone Vel. 2	Factory: Trpt & Trbn.
121	10	57	Trombone Vel. 3	Factory: Trpt & Trbn.
121	11	57	Trombone Pro Vel	Factory: Trpt & Trbn.
121	12	57	Trombone	Legacy: Trpt & Trbn.
121	13	57	Trombone DNC	Factory: Trpt & Trbn.
121	14	57	Jazz Trb. 2 DNC	Factory: Trpt & Trbn.
121	15	57	Jazz Trb. 1 DNC	Factory: Trpt & Trbn.
121	16	57	Soft Trb. DNC	Factory: Trpt & Trbn.
121	17	57	Trb. Expr. DNC	Factory: Trpt & Trbn.
121	0	58	Tuba GM	GM2/XG: Brass
121	1	58	Oberkr. Tuba	Factory: Trpt & Trbn.
121	2	58	Tuba Gold	Factory: Trpt & Trbn.
121	3	58	Dynabone	Legacy: Trpt & Trbn.
121	4	58	Ob.Tuba&E.Bass 1	Legacy: Trpt & Trbn.
121	5	58	Ob.Tuba&E.Bass 2	Legacy: Trpt & Trbn.
121	6	58	Alp Tuba	Factory: Trpt & Trbn.
121	0	59	Muted Trumpet GM	GM2/XG: Brass
121	1	59	Muted Trumpet 2	GM2/XG: Brass
121	2	59	Wah Trumpet	Factory: Trpt & Trbn.
121	3	59	Mute Ensemble 1	Factory: Brass
121	4	59	Mute Ensemble 2	Factory: Brass
121	5	59	Mute Trumpet	Factory: Trpt & Trbn.
121	0	60	French Horn GM	GM2/XG: Brass
121	1	60	FrenchHorn Warm	GM2/XG: Brass
121	2	60	French Section	Factory: Brass
121	3	60	Classic Horns	Factory: Brass
121	4	60	Horns & Ensemble	Factory: Brass
121	5	60	Trpt. & Horns	Factory: Brass
121	6	60	Soft Horns 1	Factory: Brass
121	7	60	Soft Horns 2	Factory: Brass
121	8	60	Soft Horns 3	Factory: Brass

CC00	CC32	PC	Name	Sound Family
121	0	61	Brass Section GM	GM2/XG: Brass
121	1	61	Brass Section 2	GM2/XG: Brass
121	2	61	Tight Brass 3	Factory: Brass
121	3	61	Glenn & Friends	Factory: Brass
121	4	61	Big Band Brass 2	Factory: Brass
121	5	61	Sax & Brass	Factory: Brass
121	6	61	Glenn & Boys	Factory: Brass
121	7	61	Trpts & Brass	Factory: Brass
121	8	61	Attack Brass	Legacy: Brass
121	9	61	Trumpet Ens.	Factory: Brass
121	10	61	Trombone Ens.	Factory: Brass
121	11	61	Trombones	Factory: Brass
121	12	61	Tight Brass 4	Factory: Brass
121	13	61	Fat Brass	Factory: Brass
121	14	61	Dyna Brass 1	Factory: Brass
121	15	61	Brass Expr.	Legacy: Brass
121	16	61	Brass & Sax	Factory: Brass
121	17	61	Film Brass	Legacy: Brass
121	18	61	Brass Slow	Legacy: Brass
121	19	61	Fanfare	Legacy: Brass
121	20	61	Movie Brass	Factory: Brass
121	21	61	Power Brass	Legacy: Brass
121	22	61	Dyna Brass 2	Legacy: Brass
121	23	61	Sforzato Brass	Factory: Brass
121	24	61	Double Brass	Legacy: Brass
121	25	61	Brass Hit	Factory: Brass
121	26	61	Brass Fall	Factory: Brass
121	27	61	Tight Brass 1	Factory: Brass
121	28	61	Tight Brass Pro	Factory: Brass
121	29	61	Tight Brass 2	Factory: Brass
121	30	61	Brass of Power	Factory: Brass
121	31	61	Brass Section	Factory: Brass
121	32	61	Big Band Brass 1	Factory: Brass
121	33	61	Big BandShake Y+	Legacy: Brass
121	34	61	Trpts &Trombs	Factory: Brass
121	35	61	Trumpet Ens1 Y+	Legacy: Brass
121	36	61	Trumpet Ens2 Y+	Factory: Brass
121	0	62	Synth Brass 1 GM	GM2/XG: Brass
121	1	62	Synth Brass 3	GM2/XG: Brass
121	2	62	Analog Brass 1	GM2/XG: Brass
121	3	62	Jump Brass	GM2/XG: Brass
121	4	62	Electrik Brass	Factory: Brass
121	5	62	Synth Brass 1	Factory: Brass
121	0	63	Synth Brass 2 GM	GM2/XG: Brass
121	1	63	Synth Brass 4	GM2/XG: Brass
121	2	63	Analog Brass 2	GM2/XG: Brass
121	3	63	Brass Pad	Legacy: Brass
121	4	63	Big Panner	Factory: Synth Pad
121	5	63	Synth Brass 2	Legacy: Brass
121	0	64	Soprano Sax GM	GM2/XG: Reed
121	1	64	Sweet Soprano 3	Factory: Sax
121	2	64	Soprano Pro	Factory: Sax
121	3	64	Sweet Soprano 1	Factory: Sax
121	4	64	Sweet Soprano 2	Factory: Sax
121	0	65	Alto Sax GM	GM2/XG: Reed
121	1	65	Alto Breath	Legacy: Sax
121	2	65	Sax Ensemble	Factory: Sax
121	3	65	Breathy Alto Sax	Legacy: Sax
121	4	65	Alto Sax Growl	Legacy: Sax
121	5	65	Sweet Alto Sax 1	Factory: Sax
121	6	65	Sweet Alto Sax 2	Factory: Sax
121	7	65	Soft Alto Sax	Factory: Sax
121	8	65	Alto Sax Pro	Factory: Sax
121	9	65	Alto Sax Expr.	Factory: Sax
121	10	65	Alto Sax RX	Factory: Sax
121	11	65	Cool Sax Ens.	Factory: Sax
121	12	65	Alto Sax DNC	Factory: Sax
121	13	65	Jazz Sax 1 DNC	Factory: Sax
121	14	65	Jazz Sax 2 DNC	Factory: Sax
121	0	66	Tenor Sax GM	GM2/XG: Reed
121	1	66	Tenor Sax Noise1	Factory: Sax
121	2	66	Soft Tenor	Legacy: Sax
121	3	66	Tenor Breath	Legacy: Sax
121	4	66	Tenor Growl	Legacy: Sax
121	5	66	Folk Sax	Legacy: Sax
121	6	66	Tenor Sax Noise2	Factory: Sax
121	7	66	Tenor Sax Expr.1	Factory: Sax
121	8	66	Tenor Sax Expr.2	Factory: Sax
121	9	66	Jazz Tenor 1	Factory: Sax
121	10	66	Jazz Tenor 2	Factory: Sax
121	11	66	Reed of Power	Factory: Sax
121	12	66	Tenor Sax DNC	Factory: Sax
121	0	67	Baritone Sax GM	GM2/XG: Reed
121	1	67	Baritone Growl	Factory: Sax
121	2	67	Breathy Baritone	Legacy: Sax
121	3	67	Baritone Sax Pro	Factory: Sax
121	4	67	Baritone Sax	Factory: Sax
121	0	68	Oboe GM	GM2/XG: Reed
121	1	68	Double Reed	Factory: Woodwind
121	2	68	Classic Oboe	Factory: Woodwind
121	0	69	English Horn GM	GM2/XG: Reed
121	1	69	English Horn	Legacy: Woodwind
121	0	70	Bassoon GM	GM2/XG: Reed
121	1	70	Bassoon	Factory: Woodwind
121	0	71	Clarinet GM	GM2/XG: Reed
121	1	71	Jazz Clarinet	Factory: Woodwind
121	2	71	Clarinet G	Factory: Ethnic
121	3	71	Section Winds 1	Factory: Woodwind
121	4	71	Section Winds 2	Factory: Woodwind
121	5	71	Clarinet Ens.	Factory: Woodwind
121	6	71	Woodwinds	Factory: Woodwind
121	7	71	Folk Clarinet	Legacy: Woodwind
121	8	71	Clarinet Pro 1	Factory: Woodwind
121	9	71	Clarinet Pro 2	Factory: Woodwind
121	10	71	Reeds & Saxes	Factory: Woodwind
121	11	71	Klarnet 1	Factory: Ethnic

CC00	CC32	PC	Name	Sound Family
121	12	71	Klarnet 2	Factory: Ethnic
121	13	71	Clarinet DNC	Factory: Woodwind
121	14	71	RealClarinet DNC	Factory: Woodwind
121	15	71	JazzClarinet DNC	Factory: Woodwind
121	16	71	SoloClarinet DNC	Factory: Woodwind
121	17	71	Clar & Sax Ens.1	Factory: Woodwind
121	18	71	Clar & Sax Ens.2	Factory: Woodwind
121	0	72	Piccolo GM	GM2/XG: Pipe
121	1	72	Small Orchestra	Factory: Woodwind
121	2	72	Nay	Factory: Ethnic
121	3	72	Piccolo	Factory: Woodwind
121	0	73	Flute GM	GM2/XG: Pipe
121	1	73	Jazz Flute Expr.	Factory: Woodwind
121	2	73	Flute Switch	Factory: Woodwind
121	3	73	Flute Dyn. 5th	Factory: Woodwind
121	4	73	Flute Frullato	Factory: Woodwind
121	5	73	Orchestra Flute	Factory: Woodwind
121	6	73	Flute Muted	Factory: Brass
121	7	73	Wooden Flute	Legacy: Woodwind
121	8	73	Bambu Flute	Legacy: Woodwind
121	9	73	Flute	Legacy: Woodwind
121	10	73	Jazz Flute RX	Factory: Woodwind
121	11	73	Flute DNC	Factory: Woodwind
121	12	73	Orch. Flute DNC	Factory: Woodwind
121	13	73	Jazz Flute DNC	Factory: Woodwind
121	0	74	Recorder GM	GM2/XG: Pipe
121	1	74	Recorder 1	Legacy: Woodwind
121	2	74	Recorder 2	Legacy: Woodwind
121	0	75	Pan Flute GM	GM2/XG: Pipe
121	1	75	Kawala	Factory: Ethnic
121	2	75	Panflute 1 DNC	Factory: Woodwind
121	3	75	Panflute 2 DNC	Factory: Woodwind
121	0	76	Blown Bottle GM	GM2/XG: Pipe
121	1	76	Blown Bottle	Factory: Woodwind
121	0	77	Shakuhachi GM	GM2/XG: Pipe
121	1	77	Old Shakuhachi	Factory: Ethnic
121	2	77	Shakuhachi	Legacy: Ethnic
121	3	77	Shakuhachi Vel.	Factory: Woodwind
121	0	78	Whistle GM	GM2/XG: Pipe
121	1	78	Whistle	Factory: Woodwind
121	2	78	Whistle Breathe	Factory: Woodwind
121	3	78	Whistle RX1	Factory: Woodwind
121	4	78	Whistle RX2	Factory: Woodwind
121	5	78	Whistle DNC	Factory: Woodwind
121	0	79	Ocarina GM	GM2/XG: Pipe
121	1	79	Ocarina	Factory: Woodwind
121	0	80	Lead Square GM	GM2/XG: Syn.Ld/Pad
121	1	80	Lead Square 2	GM2/XG: Syn.Ld/Pad
121	2	80	Lead Sine	GM2/XG: Syn.Ld/Pad
121	3	80	Old Portamento	Factory: Synth Lead
121	4	80	Dance Lead	Factory: Synth Lead
121	5	80	Wave Lead	Factory: Synth Lead
121	6	80	Sine Wave	Factory: Synth Lead
121	7	80	Analog Lead	Factory: Synth Lead
121	8	80	Old & Analog	Legacy: Synth Lead
121	9	80	Gliding Square	Factory: Synth Lead
121	10	80	Sine Switch	Factory: Synth Lead
121	11	80	Square Rez	Legacy: Synth Lead
121	12	80	Port Whine	Factory: Synth Lead
121	13	80	2VCO Planet Lead	Factory: Synth Lead
121	0	81	Lead Saw GM	GM2/XG: Syn.Ld/Pad
121	1	81	Lead Saw 2	GM2/XG: Syn.Ld/Pad
121	2	81	Lead Saw & Pulse	GM2/XG: Syn.Ld/Pad
121	3	81	Lead Double Saw	GM2/XG: Syn.Ld/Pad
121	4	81	Lead Seq. Analog	GM2/XG: Syn.Ld/Pad
121	5	81	Power Saw	Factory: Synth Lead
121	6	81	Octo Lead	Factory: Synth Lead
121	7	81	Seq Lead	Legacy: Synth Lead
121	8	81	Phat Saw Lead	Factory: Synth Lead
121	9	81	Glide Lead	Factory: Synth Lead
121	10	81	Fire Wave	Factory: Synth Lead
121	11	81	Rezbo	Legacy: Synth Lead
121	12	81	Synth Pianoid	Factory: Synth Lead
121	0	82	Calliope GM	GM2/XG: Syn.Ld/Pad
121	0	83	Chiff GM	GM2/XG: Syn.Ld/Pad
121	0	84	Charang GM	GM2/XG: Syn.Ld/Pad
121	1	84	Wire Lead	GM2/XG: Syn.Ld/Pad
121	2	84	Synchro City	Legacy: Synth Lead
121	3	84	Sync Kron	Legacy: Synth Lead
121	4	84	Metallic Rez	Factory: Synth Lead
121	5	84	Brian Sync	Legacy: Synth Lead
121	6	84	Arp Twins	Legacy: Synth Lead
121	7	84	LoFi Ethnic	Legacy: Synth Lead
121	0	85	Voice Lead GM	GM2/XG: Syn.Ld/Pad
121	1	85	Ether Voices	Legacy: Strings & Voc.
121	2	85	Cyber Choir	Legacy: Strings & Voc.
121	0	86	Fifths Lead GM	GM2/XG: Syn.Ld/Pad
121	1	86	Crimson 5ths	Legacy: Synth Pad
121	0	87	Bass & Lead GM	GM2/XG: Syn.Ld/Pad
121	1	87	Lead Soft Wrl	GM2/XG: Syn.Ld/Pad
121	2	87	Electro Lead	Factory: Synth Lead
121	3	87	Rich Lead	Factory: Synth Lead
121	4	87	Thin Analog Lead	Factory: Synth Lead
121	5	87	Express. Lead	Factory: Synth Lead
121	6	87	HipHop Lead	Factory: Synth Lead
121	7	87	Square Bass	Legacy: Synth Lead
121	8	87	Big & Raw	Factory: Synth Lead
121	9	87	Cat Lead	Legacy: Synth Lead
121	10	87	OB Lead	Factory: Synth Lead
121	11	87	A Leadload	Factory: Synth Lead
121	12	87	Bass Phat Saw	Factory: Synth Lead
121	0	88	New Age Pad GM	GM2/XG: Syn.Ld/Pad
121	1	88	Virtual Traveler	Factory: Synth Pad
121	2	88	Arp Angeles	Factory: Synth Lead
121	0	89	Warm Pad GM	GM2/XG: Syn.Ld/Pad

CC00	CC32	PC	Name	Sound Family
121	1	89	Sine Pad	GM2/XG: Synth Lead / Pad
121	2	89	Master Pad	Legacy: Strings & Voc.
121	3	89	Power Synth	Factory: Synth Lead
121	4	89	The Pad	Factory: Synth Pad
121	5	89	Money Pad	Factory: Synth Pad
121	6	89	Dark Pad	Factory: Synth Pad
121	7	89	Freedom Pad	Legacy: Synth Pad
121	8	89	Analog Pad 1	Factory: Synth Pad
121	9	89	Analog Pad 2	Factory: Synth Pad
121	10	89	Analog Pad 3	Factory: Synth Pad
121	11	89	Vintage Pad	Legacy: Synth Pad
121	12	89	OB Pad	Factory: Synth Pad
121	13	89	Dark Anna	Factory: Synth Pad
121	14	89	Symphonic Ens.	Factory: Synth Pad
121	15	89	Warm Pad	Factory: Synth Pad
121	0	90	Polysynth GM	GM2/XG: Syn.Ld/Pad
121	1	90	Reso Sweep	Legacy: Synth Lead
121	2	90	Sky Watcher	Legacy: Synth Pad
121	3	90	Synth Sweeper	Legacy: Synth Lead
121	4	90	Super Sweep	Factory: Synth Pad
121	5	90	Wave Sweep	Factory: Synth Pad
121	6	90	Cross Sweep	Factory: Synth Pad
121	7	90	Digital PolySix	Factory: Synth Lead
121	8	90	Noisy Stabb	Factory: Synth Lead
121	9	90	Mega Synth	Factory: Synth Lead
121	10	90	Tecno Phonic	Legacy: Synth Lead
121	11	90	Farluce	Legacy: Synth Pad
121	12	90	Big Sweep Stab	Factory: Synth Pad
121	13	90	Korgmatose	Legacy: Synth Pad
121	0	91	Choir Pad GM	GM2/XG: Syn.Ld/Pad
121	1	91	Itopia Pad	GM2/XG: Syn.Ld/Pad
121	2	91	Fresh Air 1	Factory: Synth Pad
121	3	91	Heaven	Factory: Strings & Voc.
121	4	91	Pop Synth Pad 1	Factory: Synth Pad
121	5	91	Future Pad	Factory: Synth Pad
121	6	91	Tsunami Wave	Factory: Synth Pad
121	7	91	Fresh Breath	Factory: Strings & Voc.
121	8	91	Ravelian Pad	Factory: Synth Pad
121	9	91	Full Vox Pad	Factory: Strings & Voc.
121	10	91	Dance ReMix	Legacy: Synth Pad
121	11	91	Fresh Air 2	Factory: Synth Pad
121	12	91	Pop Synth Pad 2	Factory: Synth Pad
121	13	91	Choir-Sequence	Factory: Synth Pad
121	0	92	Bowed Glass GM	GM2/XG: Syn.Ld/Pad
121	0	93	Metallic Pad GM	GM2/XG: Syn.Ld/Pad
121	1	93	Cosmic	Factory: Synth Lead
121	2	93	80's Pop Synth	Factory: Synth Pad
121	3	93	Techno Stab DNC	Factory: Synth Pad
121	0	94	Halo Pad GM	GM2/XG: Syn.Ld/Pad
121	0	95	Sweep Pad GM	GM2/XG: Syn.Ld/Pad
121	1	95	Astral Dream	Legacy: Synth Pad
121	2	95	Meditate	Factory: Synth Pad
121	3	95	Dark Element	Factory: Synth Lead
121	4	95	Mellow Pad	Legacy: Synth Pad
121	5	95	Cinema Pad	Factory: Synth Pad
121	6	95	Reoccuring Astra	Legacy: Synth Pad
121	7	95	Vintage Sweep	Factory: Synth Pad
121	8	95	You Decide	Legacy: Synth Pad
121	0	96	Ice Rain GM	GM2/XG: Synth SFX
121	1	96	Motion Ocean	Factory: Synth Pad
121	2	96	Caribbean	Factory: Synth Lead
121	3	96	Wave Cycle DNC	Factory: Synth Pad
121	4	96	Wave-Sequence	Factory: Synth Pad
121	0	97	Soundtrack GM	GM2/XG: Synth SFX
121	1	97	Air Clouds	Factory: Synth Pad
121	2	97	Reso Down	Legacy: Synth Pad
121	3	97	Tinklin Pad	Factory: Synth Pad
121	4	97	Pods In Pad	Factory: Synth Pad
121	5	97	Noble Pad	Legacy: Synth Pad
121	6	97	Rave	Factory: Synth Pad
121	7	97	Elastick Pad	Legacy: Synth Pad
121	0	98	Crystal GM	GM2/XG: Synth SFX
121	1	98	Synth Mallet	GM2/XG: Synth SFX
121	2	98	Vs Bell Boy	Factory: Mallet & Bell
121	3	98	Krystal Bell	Legacy: Mallet & Bell
121	4	98	Digi Bell	Legacy: Mallet & Bell
121	5	98	Moving Bell	Factory: Synth Pad
121	6	98	Bell Pad	Factory: Synth Pad
121	7	98	Bell Choir	Legacy: Synth Pad
121	0	99	Atmosphere GM	GM2/XG: Synth SFX
121	0	100	Brightness GM	GM2/XG: Synth SFX
121	1	100	Lonely Spin	Legacy: Synth Pad
121	2	100	Synth Ghostly	Legacy: Synth Pad
121	0	101	Goblins GM	GM2/XG: Synth SFX
121	1	101	Motion Raver	Legacy: Synth Lead
121	2	101	Digi Ice Pad	Factory: Synth Pad
121	3	101	VCF Modulation	Factory: Synth Lead
121	4	101	Organ Stab DNC	Factory: Synth Pad
121	0	102	Echo Drops GM	GM2/XG: Synth SFX
121	1	102	Echo Bell	GM2/XG: Synth SFX
121	2	102	Echo Pan	GM2/XG: Synth SFX
121	3	102	Band Passed	Legacy: Synth Lead
121	4	102	Pan Reso	Legacy: Synth Lead
121	5	102	Moon Cycles	Factory: Synth Pad
121	0	103	Star Theme GM	GM2/XG: Synth SFX
121	0	104	Sitar GM	GM2/XG: Ethnic
121	1	104	Sitar 2	GM2/XG: Ethnic
121	2	104	Sitar Tambou	Factory: Ethnic
121	3	104	Indian Stars	Legacy: Ethnic
121	4	104	Indian Frets	Factory: Ethnic
121	5	104	Bouzouki	Factory: Ethnic
121	6	104	Tambra	Legacy: Ethnic
121	7	104	Sitar Sitar	Legacy: Ethnic
121	8	104	Sitar	Factory: Ethnic
121	9	104	Zither	Factory: Ethnic

CC00	CC32	PC	Name	Sound Family
121	0	105	Banjo GM	GM2/XG: Ethnic
121	1	105	Banjo Key Off	Factory: Ethnic
121	2	105	Oud 2	Factory: Ethnic
121	3	105	Jaw Harp	Factory: Ethnic
121	4	105	Banjo RX	Factory: Ethnic
121	5	105	Oud 1	Factory: Ethnic
121	0	106	Shamisen GM	GM2/XG: Ethnic
121	0	107	Koto GM	GM2/XG: Ethnic
121	1	107	Taisho Koto	GM2/XG: Ethnic
121	2	107	Kanoun 2	Factory: Ethnic
121	3	107	Kanoun Trem. 2	Factory: Ethnic
121	4	107	Kanoun Mix	Factory: Ethnic
121	5	107	Kanoun 1	Factory: Ethnic
121	6	107	Kanoun Trem. 1	Factory: Ethnic
121	7	107	Ac. Baglama 1	Factory: Ethnic
121	8	107	Ac. Baglama 2	Factory: Ethnic
121	9	107	Ac. Baglama Grp.	Factory: Ethnic
121	0	108	Kalimba GM	GM2/XG: Ethnic
121	1	108	Kalimba 2	Factory: Mallet & Bell
121	2	108	Kalimba 1	Factory: Mallet & Bell
121	0	109	Bag Pipes GM	GM2/XG: Ethnic
121	1	109	War Pipes	Legacy: Ethnic
121	2	109	Uillean BagPipes	Factory: Ethnic
121	3	109	HighlandBagPipes	Factory: Ethnic
121	0	110	Fiddle GM	GM2/XG: Ethnic
121	1	110	Fiddle	Factory: Ethnic
121	0	111	Shanai GM	GM2/XG: Ethnic
121	1	111	Zurna 2	Factory: Ethnic
121	2	111	Hichiriki	Factory: Ethnic
121	3	111	Zurna 1	Factory: Ethnic
121	0	112	Tinkle Bell GM	GM2/XG: Percussive
121	1	112	Gamelan	Factory: Ethnic
121	2	112	Bali Gamelan	Legacy: Ethnic
121	3	112	Garbage Mall	Factory: Ethnic
121	0	113	Agogo GM	GM2/XG: Percussive
121	0	114	Steel Drums GM	GM2/XG: Percussive
121	1	114	Warm Steel	Factory: Mallet & Bell
121	0	115	Woodblock GM	GM2/XG: Percussive
121	1	115	Castanets	GM2/XG: Percussive
121	2	115	Castanets Plus	Legacy: Drum & SFX
121	0	116	Taiko Drum GM	GM2/XG: Percussive
121	1	116	Concert BassDrum	GM2/XG: Percussive
121	0	117	Melodic Tom GM	GM2/XG: Percussive
121	1	117	Melodic Tom 2	GM2/XG: Percussive
121	2	117	Reverse Tom	Legacy: Drum & SFX
121	0	118	Synth Drum GM	GM2/XG: Percussive
121	1	118	Rhythm Box Tom	GM2/XG: Percussive
121	2	118	Electric Drum	GM2/XG: Percussive
121	3	118	Reverse Snare	Legacy: Drum & SFX
121	0	119	ReverseCymbalGM	GM2/XG: Percussive
121	1	119	Dragon Gong	Legacy: Drum & SFX
121	2	119	Reverse Cymbal	Legacy: Drum & SFX
121	0	120	Gtr FretNoise GM	GM2/XG: SFX
121	1	120	Guitar Cut Noise	GM2/XG: SFX
121	2	120	Ac. Bass String	GM2/XG: SFX
121	3	120	Vox Wah Chick RX	Factory: Guitar
121	0	121	Breath Noise GM	GM2/XG: SFX
121	1	121	Flute Key Click	GM2/XG: SFX
121	0	122	Seashore GM	GM2/XG: SFX
121	1	122	Rain	GM2/XG: SFX
121	2	122	Thunder	GM2/XG: SFX
121	3	122	Wind	GM2/XG: SFX
121	4	122	Stream	GM2/XG: SFX
121	5	122	Bubble	GM2/XG: SFX
121	0	123	Bird Tweet GM	GM2/XG: SFX
121	1	123	Dog	GM2/XG: SFX
121	2	123	Horse Gallop	GM2/XG: SFX
121	3	123	Bird Tweet 2	GM2/XG: SFX
121	0	124	Telephone GM	GM2/XG: SFX
121	1	124	Telephone 2	GM2/XG: SFX
121	2	124	Door Creaking	GM2/XG: SFX
121	3	124	Door	GM2/XG: SFX
121	4	124	Scratch	GM2/XG: SFX
121	5	124	Wind Chime	GM2/XG: SFX
121	0	125	Helicopter GM	GM2/XG: SFX
121	1	125	Car Engine	GM2/XG: SFX
121	2	125	Car Stop	GM2/XG: SFX
121	3	125	Car Pass	GM2/XG: SFX
121	4	125	Car Crash	GM2/XG: SFX
121	5	125	Siren	GM2/XG: SFX
121	6	125	Train	GM2/XG: SFX
121	7	125	Jetplane	GM2/XG: SFX
121	8	125	Starship	GM2/XG: SFX
121	9	125	Burst Noise	GM2/XG: SFX
121	0	126	Applause GM	GM2/XG: SFX
121	1	126	Laughing	GM2/XG: SFX
121	2	126	Screaming	GM2/XG: SFX
121	3	126	Punch	GM2/XG: SFX
121	4	126	Heart Beat	GM2/XG: SFX
121	5	126	Footsteps	GM2/XG: SFX
121	6	126	Stadium	Legacy: Drum & SFX
121	0	127	Gun Shot GM	GM2/XG: SFX
121	1	127	Machine Gun	GM2/XG: SFX
121	2	127	Laser Gun	GM2/XG: SFX
121	3	127	Explosion	GM2/XG: SFX
121	4	127	Deep Noise	Factory: Synth Pad
121	127	16	Digit.DRAWBARS	Factory: Organ
User Sound and Drum Kit Banks				
121	64	0-127	…	User 01
121	65	0-127	…	User 02
121	66	0-127	…	User 03
121	67	0-127	…	User 04
120	64	0-127	…	User DK

Drum Kits

The following table lists all Pa3X Factory Drum Kits in order of Bank Select-Program Change number.

Legend: *The table also includes MIDI data used to remotely select the Drum Kits.* ***CC00:*** *Control Change 0, or Bank Select MSB.* ***CC32:*** *Control Change 32, or Bank Select LSB.* ***PC:*** *Program Change.*

CC00	CC32	PC	Name	Bank
120	0	0	Standard Kit GM	GM2/XG: Drum
120	0	1	Standard Kit RX2	Factory: Drum & SFX
120	0	2	Standard Kit RX3	Factory: Drum & SFX
120	0	3	Ambient Kit RX	Factory: Drum & SFX
120	0	4	Pop Std. Kit RX	Factory: Drum & SFX
120	0	5	Standard Kit RX1	Factory: Drum & SFX
120	0	6	Standard Kit RX4	Factory: Drum & SFX
120	0	7	Standard Kit	Legacy: Drum & SFX
120	0	8	Room Kit GM	GM2/XG: Drum
120	0	9	HipHop Kit 1	Factory: Drum & SFX
120	0	10	Jungle Kit	Factory: Drum & SFX
120	0	11	Techno Kit 1	Factory: Drum & SFX
120	0	12	Room Kit 2	Legacy: Drum & SFX
120	0	13	HipHop Kit 2	Legacy: Drum & SFX
120	0	14	Techno Kit 2	Legacy: Drum & SFX
120	0	15	Techno Kit 3	Legacy: Drum & SFX
120	0	16	Power Kit GM	GM2/XG: Drum
120	0	17	Power Kit 2	Legacy: Drum & SFX
120	0	18	Power Kit RX1	Factory: Drum & SFX
120	0	19	Power Kit RX2	Factory: Drum & SFX
120	0	20	Power Kit 1 Amb	Factory: Drum & SFX
120	0	21	Power Kit 2 Amb	Factory: Drum & SFX
120	0	22	Rock Kit Amb	Factory: Drum & SFX
120	0	23	Gate Kit Amb	Factory: Drum & SFX
120	0	24	Electro Kit GM	GM2/XG: Drum
120	0	25	Analog Kit GM	GM2/XG: Drum
120	0	26	House Kit 1	Legacy: Drum & SFX
120	0	27	House Kit 2	Legacy: Drum & SFX
120	0	28	House Kit 3	Legacy: Drum & SFX
120	0	30	House Kit RX1	Factory: Drum & SFX
120	0	31	House Kit RX2	Factory: Drum & SFX
120	0	32	Jazz Kit GM	GM2/XG: Drum
120	0	33	Jazz Kit RX1	Factory: Drum & SFX
120	0	34	Jazz Kit RX2	Factory: Drum & SFX
120	0	35	Jazz Kit RX3	Factory: Drum & SFX
120	0	36	Jazz Kit 1 Amb	Factory: Drum & SFX
120	0	37	Jazz Kit 2 Amb	Factory: Drum & SFX
120	0	38	Lounge Kit Amb	Factory: Drum & SFX
120	0	39	Cool Kit Amb	Factory: Drum & SFX
120	0	40	Brush Kit GM	GM2/XG: Drum
120	0	41	Brush Kit 2	Legacy: Drum & SFX
120	0	42	Brush Kit RX1	Factory: Drum & SFX
120	0	43	Brush Kit RX2	Factory: Drum & SFX
120	0	44	Brush Kit RX3	Factory: Drum & SFX
120	0	45	Brush Kit 1 Amb	Factory: Drum & SFX
120	0	46	Brush Kit 2 Amb	Factory: Drum & SFX
120	0	48	Orchestra Kit GM	GM2/XG: Drum
120	0	49	Orchestra Kit	Legacy: Drum & SFX
120	0	50	Bdrum&Sdrum Kit	Legacy: Drum & SFX
120	0	51	Arabian Kit 1	Factory: Drum & SFX
120	0	56	SFX Kit GM	GM2/XG: Drum
120	0	57	SFX Kit 2	Factory: Drum & SFX
120	0	58	Synth Kit 2	Factory: Drum & SFX
120	0	59	Synth Kit 1	Factory: Drum & SFX
120	0	60	SFX Kit 1	Factory: Drum & SFX
120	0	64	Percussion Kit	Factory: Drum & SFX
120	0	65	Latin Perc.Kit 1	Factory: Drum & SFX
120	0	66	Trinity Perc.Kit	Factory: Drum & SFX
120	0	67	i30 Perc. Kit	Factory: Drum & SFX
120	0	68	Latin Perc.Kit 2	Factory: Drum & SFX
120	0	69	Standard PercKit	Factory: Drum & SFX
120	0	72	HipHop Kit RX	Factory: Drum & SFX
120	0	73	Techno Kit RX	Factory: Drum & SFX
120	0	74	Dance Kit RX	Factory: Drum & SFX
120	0	75	Electro Kit RX1	Factory: Drum & SFX
120	0	76	Electro Kit RX2	Factory: Drum & SFX
120	0	77	Groove Kit RX	Factory: Drum & SFX
120	0	80	Room Kit Amb	Factory: Drum & SFX
120	0	81	Real Kit 1 Amb	Factory: Drum & SFX
120	0	82	Real Kit 2 Amb	Factory: Drum & SFX
120	0	88	Pop Kit Amb	Factory: Drum & SFX
120	0	89	Pop Std. Kit 1	Factory: Drum & SFX
120	0	90	Pop Std. Kit 2	Factory: Drum & SFX
120	0	93	Standard Kit Amb	Factory: Drum & SFX
120	0	94	Vintage Kit Amb	Factory: Drum & SFX
120	0	95	Studio Kit RX	Factory: Drum & SFX
120	0	96	Elektro Kit 1	Factory: Drum & SFX
120	0	97	Elektro Kit 2	Factory: Drum & SFX
120	0	117	Arabian Kit 2	Factory: Drum & SFX
120	0	118	Turkish Kit	Factory: Drum & SFX
120	0	119	Oriental PercKit	Factory: Drum & SFX
120	0	120	Room Kit 1	Factory: Drum & SFX
120	0	121	Power Kit 1	Legacy: Drum & SFX
120	0	122	Electro Kit	Factory: Drum & SFX
120	0	123	Analog Kit	Factory: Drum & SFX
120	0	125	Brush Kit 1	Legacy: Drum & SFX
127	0	0	Standard Kit1 XG	GM2/XG: Drum
127	0	9	Standard Kit2 XG	GM2/XG: Drum
127	0	8	Room Kit XG	GM2/XG: Drum
127	0	16	Rock Kit XG	GM2/XG: Drum
127	0	24	Electro Kit XG	GM2/XG: Drum
127	0	25	Analog Kit XG	GM2/XG: Drum

CC00	CC32	PC	Name	Bank
127	0	32	Jazz Kit 1 XG	GM2/XG: Drum
127	0	48	Jazz Kit 2 XG	GM2/XG: Drum
127	0	40	Brush Kit XG	GM2/XG: Drum
127	0	17	Classic Kit XG	GM2/XG: Drum
120	64	0-127	…	User DK

Multisamples

The following table lists all Pa3X Factory Multisamples.

** **OrigTune:** Original Tune, i.e., samples use the natural tuning of the original instrument, instead of the equal tuning. Beating may occur at the extreme pitch, when the sound is used in conjunction with other sounds.*

0	Grand Piano L	38	E.Piano Dyno f	76	4' 22/3' 2' LF R
1	Grand Piano R	39	E.Piano Dyno ff	77	4' 22/3' 2' LS L
2	Grand Piano OT L	40	E.Piano Dyno Soft	78	4' 22/3' 2' LS R
3	Grand Piano OT R	41	E.Piano Dyno SoftLP	79	11/3' 13/5' 1' LF L
4	Piano Resonance L	42	E.Piano Stage Hard	80	11/3' 13/5' 1' LF R
5	Piano Resonance R	43	E.Piano Stage HardLP	81	11/3' 13/5' 1' LS L
6	Piano Resonance OT L	44	E.Piano Vintage pp	82	11/3' 13/5' 1' LS R
7	Piano Resonance OT R	45	E.Piano Vintage p	83	16' 8' 51/3' Perc LF L
8	Piano FX Pedal On L	46	E.Piano Vintage mf	84	16' 8' 51/3' Perc LF R
9	Piano FX Pedal On R	47	E.Piano Vintage f	85	16' 8' 51/3' Perc LS L
10	Piano FX Pedal Off L	48	E.Piano Vintage ff	86	16' 8' 51/3' Perc LS R
11	Piano FX Pedal Off R	49	E.Piano Vintage fff	87	Theater Organ 1
12	Piano FX Key Off L	50	E.Piano Vintage Koff	88	Theater Organ 2
13	Piano FX Key Off R	51	E.Piano Wurly Soft	89	50s E.Organ Bright
14	AcousticPiano L	52	E.Piano Wurly Hard	90	50s E.Organ Dark
15	AcousticPiano R	53	E.Piano Pad 1	91	E.Organ CX 3
16	Piano M1	54	E.Piano Pad 1LP	92	E.Organ Perc. O1W
17	E.GrandPiano	55	E.Piano Pad 2	93	E.Organ Fast Click
18	E.Piano FM 1	56	Clavi 1	94	E.Organ Perc. 1
19	E.Piano FM 1LP	57	Clavi 2	95	E.Organ Perc. 2
20	E.Piano FM 2	58	Clavi 3	96	E.Organ Perc. 3
21	E.Piano PO mp	59	Clavi 4	97	E.Organ Perc. 4
22	E.Piano PO mf	60	Clavinet GM	98	Organ 1 M1
23	E.Piano PO f	61	Harpsichord	99	Organ 2 M1
24	E.Piano PO f+	62	Harpsichord Key off	100	Organ 1
25	E.Piano PO ff	63	Gospel Organ Slow L	101	Organ 2
26	E.Piano PO ff+	64	Gospel Organ Slow R	102	Organ 2LP
27	E.Piano PO fff	65	Gospel Organ Fast L	103	Organ3 Jazz
28	E.Piano PO Kof p	66	Gospel Organ Fast R	104	BX3 & Perc. 3rd
29	E.Piano PO Kof f	67	16' 8' LF L	105	E.Organ Vox
30	E.Piano Rx KON L	68	16' 8' LF R	106	E.Organ Soft
31	E.Piano Rx KON R	69	16' 8' LS L	107	E.Organ Full
32	E.Piano Rx KOF L	70	16' 8' LS R	108	E.Organ Dist
33	E.Piano Rx KOF R	71	16' 8' 51/3 LF L	109	Rotary Organ 1
34	E.Piano Suit Bright mp	72	16' 8' 51/3 LF R	110	Rotary Organ 1LP
35	E.Piano Suit Bright mf	73	16' 8' 51/3 LS L	111	Rotary Organ 2
36	E.Piano Suit Bright f	74	16' 8' 51/3 LS R	112	Super BX3
37	E.Piano Dyno mf	75	4' 22/3' 2' LF L	113	Super BX3LP

114 Rotor Noise LF L
115 Rotor Noise LF R
116 Rotor Noise LS L
117 Rotor Noise LS R
118 H Organ Leakage
119 H Organ 2nd Harmonic
120 H Organ Click Kon
121 H Organ Click Koff
122 ON-Click (Organ)
123 OFF-Click (Organ)
124 Pipe Flute L
125 Pipe Flute R
126 Pipe Positive
127 Pipe Mixture
128 Pipe Full 1 L
129 Pipe Full 1 R
130 Pipe Full 2
131 E.Organ Church
132 Music Box
133 Music BoxLP
134 Kalimba
135 Kalimba GM
136 Marimba
137 MarimbaLP
138 Xylophone
139 Balaphone
140 Vibraphone1
141 Vibraphone1LP
142 Vibraphone2
143 Celesta
144 Celesta GM
145 CelestaLP
146 Glockenspiel
147 GlockenspielLP
148 Tubular Bell
149 Log Drum
150 Steel Drum Hard
151 Steel Drum GM
152 Steel Drum HardLP
153 Gamelan
154 FM Bell
155 Flute
156 Flute Falls
157 Flute Gliss Up
158 Flute Gliss Down
159 Flute Frull
160 Flute Voice
161 Flute Jazz
162 Flute Vibrato
163 Flute Attack p
164 Flute Attack f
165 Piccolo
166 Pan Flute
167 Pan Flute Attack
168 Tin Whistle
169 Tin Whistle Voice
170 Tin Whistle Attack
171 Whistle Gliss
172 Whistle No Vibr
173 Whistle Sfz Vibr
174 Whistle Sfz No Vibr
175 Whistle Slow Atk Vibr
176 Whistle Breath
177 Shakuhachi
178 Shakuhachi Atk
179 Shakuhachi Mid
180 Shakuhachi High
181 Bottle
182 Bottlizer
183 Shanai GM
184 Recorder
185 Ocarina
186 Clarinet 1 Vibrato p
187 Clarinet 1 Vibrato f
188 Clarinet 1 GlissUp
189 Clarinet 1 Fall
190 Clarinet 2
191 Clarinet 3
192 DoubleReed M1
193 Oboe 1 Vibrato
194 Oboe 2 Straight
195 Oboe key noises
196 Oboe get a breath
197 English Horn
198 Bassoon
199 Baritone Sax mf
200 Baritone Sax f
201 Baritone Sax Growl
202 Baritone Sax GM
203 Tenor Sax p Vib
204 Tenor Sax mf Vib
205 Tenor Sax f Vib
206 Tenor Sax ff Vib
207 Tenor Sax Glissando
208 Tenor Sax Falls
209 Tenor Sax mf Straight
210 Tenor Sax Riff Up
211 Tenor Sax Riff Down
212 Tenor Sax Vibrato
213 Tenor Sax Expressive
214 Tenor Sax mp
215 Tenor Sax mf
216 Tenor Sax Straight
217 Tenor Sax M1
218 Tenor Sax GM
219 Alto Sax Vibrato1
220 Alto Sax Vibrato2
221 Alto Sax Vibrato2 Drive
222 Alto Sax p
223 Alto Sax mf
224 Alto Sax GM
225 Alto Sax Growl
226 Soprano Sax Vibrato
227 Soprano Sax Straight
228 Soprano Sax GM
229 Sax Family Vibrato
230 Sax key on
231 Sax key off
232 Sax breath
233 Musette 1
234 Musette 2
235 Musette 2LP
236 Musette 3 L
237 Musette 3 R
238 Accordion 16'
239 Accordion 16' OrigTune
240 Accordion 8'
241 Accordion 8' OrigTune
242 Accordion 4'
243 Accordion 4' OrigTune
244 Accordion preset 1
245 Accordion preset 2
246 Accordion Bassoon
247 Accordion Clarinet
248 Accordion Bandoneon

249 Accordion Volkst.
250 Accordion Bass
251 Accordion Noise KeyOn
252 Accordion Noise KeyOff
253 Accordion Change Voice
254 Harmonica 1
255 Harmonica 1 Fall
256 Harmonica 2
257 Harmonica 3 Wah
258 Melodica
259 Melodica Key On
260 Melodica Key Off
261 Highland Bag Pipes
262 Highland Drones
263 Uilleann Pipes
264 Bag Pipes
265 Bag Pipes GM
266 French Horn T1
267 French Horn Ensemble
268 French Horns GM
269 Tenor Horn
270 Flugel Horn Vibrato
271 Flugel Horn M1
272 Tuba f
273 Tuba ff
274 Tuba GM
275 Tuba Bariton Attack
276 Trombone 1 mf
277 Trombone 1 f
278 Trombone 1 ff
279 Trombone 1 Gliss Up
280 Trombone 1 Fall
281 Trombone 1 Smear
282 Trombone 1 Smear Atk
283 Trombone 2 Vibrato
284 Trombone 3 mf
285 Trombone 3 f
286 Trombone 4 Soft
287 Trombone 4 Bright
288 Trombone 5 Straight fff
289 Trombone 5 Slur Up
290 Trombone 5 Fall
291 Trombone GM
292 Trombone Muted
293 2 Trombones mf L
294 2 Trombones mf R
295 2 Trombones f L
296 2 Trombones f R
297 Classic Trumpet p
298 Classic Trumpet mf
299 Pop Trumpet mf
300 Pop Trumpet f
301 Trumpet Expr.
302 Trumpet Slow mp
303 Trumpet Slow f
304 Trumpet GM
305 Trumpet Tonguing mp
306 Trumpet Tonguing f
307 Trumpet Medium
308 Trumpet Overblown
309 Trumpet Muted
310 Trumpet Muted GM
311 Trumpet Wah wah
312 Trumpet WDH Vib
313 Trumpet WDH Shakes
314 Trumpet WDH Shakes Atk
315 Trumpet WDH Shakes Rel
316 Trumpet Doit
317 Trumpet Fall
318 2 Trumpets mp L
319 2 Trumpets mp R
320 2 Trumpets f L
321 2 Trumpets f R
322 Brass Ensemble Stereo L
323 Brass Ensemble Stereo R
324 Brass Ensemble 1
325 Brass Ensemble 2
326 Brass Ensemble 2LP
327 Brass Ensemble GM
328 Soprano Voice
329 Soprano Voice AD
330 Soprano Voice 5thDW
331 Soprano Voice 4thUP
332 Voice Female Wuh
333 Voice Female Woh
334 Voice Female Wah
335 Voice Female Dah
336 Voice Male Wuh
337 Voice Male Woh
338 Voice Male Wah
339 Voice Male Dah
340 Voice Scat Buh
341 Voice Scat Duh
342 Voice Scat Bah
343 Voice Scat Dah
344 Voice Choir
345 Voice Hoo
346 Voice Pop Ooh
347 Voice Pop Ah
348 Voice Doo
349 Voice DooLP
350 Violin1 Classic
351 Violin1 Gliss Up
352 Violin1 Gliss Dw
353 Violin1 Strings free
354 Violin1 Trill Up
355 Violin2 Solo Vibrato
356 Violin2 Straight
357 Violin GM
358 Fiddle GM
359 Viola Expressive mf
360 Viola Expressive f
361 Viola GM
362 Cello & Contrabass
363 Cello GM
364 Violin & Cello
365 Strings Quartet Vibrato1
366 Strings Quartet Vibrato2
367 Pizzicato
368 Strings Ensemble St L
369 Strings Ensemble St R
370 Strings Ensemble GM L
371 Strings Ensemble GM R
372 Strings Ensemble Mono
373 Strings Ensemble Tremolo
374 Pizzicato Ensemble
375 Harp Stereo L
376 Harp Stereo R
377 Harp Atk L
378 Harp Atk R
379 Harp Mono
380 Ac.Gtr muted p L
381 Ac.Gtr muted p R
382 Ac.Gtr muted f L
383 Ac.Gtr muted f R

384 Ac.Gtr Dwn1 L
385 Ac.Gtr Dwn1 R
386 Ac.Gtr Dwn2 L
387 Ac.Gtr Dwn2 R
388 Ac.Gtr Dwn3 L
389 Ac.Gtr Dwn3 R
390 Ac.Gtr SlideHT Up p L
391 Ac.Gtr SlideHT Up p R
392 Ac.Gtr SlideHT Up f L
393 Ac.Gtr SlideHT Up f R
394 Ac.Gtr Harmonics L
395 Ac.Gtr Harmonics R
396 Ac.Gtr RX noises L
397 Ac.Gtr RX noises R
398 Ac.Gtr finger off L
399 Ac.Gtr finger off R
400 Steel Gtr 1 Pick p
401 Steel Gtr 1 Pick mf
402 Steel Gtr 1 Pick f
403 Steel Gtr 1 Mute
404 Steel Gtr 1 Slide
405 Steel Gtr 2 p
406 Steel Gtr 2 mf
407 Steel Gtr 2 f
408 Steel Gtr 2 Slap
409 Steel Gtr 2 Slide
410 Steel Gtr 12 Strings
411 Steel Gtr Harmonics 1
412 Steel Gtr Harmonics 2
413 Steel Gtr Noise
414 Guitar Fret Noise Off
415 Guitar Noise Off
416 Guitar Body
417 Guitar Noise Attack Off
418 Nylon Gtr1 p L
419 Nylon Gtr1 p R
420 Nylon Gtr1 mf1 L
421 Nylon Gtr1 mf1 R
422 Nylon Gtr1 mf2 L
423 Nylon Gtr1 mf2 R
424 Nylon Gtr1 mf3 L
425 Nylon Gtr1 mf3 R
426 Nylon Gtr1 f L
427 Nylon Gtr1 f R
428 Nylon Gtr1 Slide p L
429 Nylon Gtr1 Slide p R
430 Nylon Gtr1 Slide f L
431 Nylon Gtr1 Slide f R
432 Nylon Gtr1 Harmonics L
433 Nylon Gtr1 Harmonics R
434 Nylon Gtr2 p
435 Nylon Gtr2 mf
436 Nylon Gtr2 f
437 Nylon Gtr2 Atk
438 Nylon Guitar GM
439 Stra Pos2 MtS1
440 Stra Pos2 MtS2
441 Stra Pos2 MtS3
442 Stra Pos2 MtS4
443 Stra Pos2 MtS5
444 Stra Pos2 MtS6
445 Stra Pos2 MtL1
446 Stra Pos2 MtL2
447 Stra Pos2 MtL3
448 Stra Pos2 MtL4
449 Stra Pos2 dw1
450 Stra Pos2 dw2
451 Stra Pos2 dw3
452 Stra Pos2 dw4
453 Stra Pos2 dw5
454 Stra Pos2 up1
455 Stra Pos2 up2
456 Stra Pos2 up3
457 Stra Pos2 up4
458 Stra Pos2 up5
459 Stra Pos2 SlideHT p
460 Stra Pos2 SlideHT f
461 Stra Pos2 Harm 12
462 Stra Pos2 Harm 7
463 Stra Pos2 Harm 5
464 Stra Pop2 Ghost UP
465 Stra Pop2 Ghost DW
466 Stra Pop2 Fret Nuances
467 Stra Pop2 Key Off
468 Stra RX1 (Old Compatib)
469 Stra RX2
470 El. Guitar Stra 54 p
471 El. Guitar Stra 54 mf
472 El. Guitar Stra 54 f
473 El. Guitar Stra 54 Slide
474 El. Guitar Tel Mid p
475 El. Guitar Tel Mid mf
476 El. Guitar Tel Mid f
477 El. Guitar Tel Bridge p
478 El. Guitar Tel Bridge mf
479 El. Guitar Tel Bridge f
480 El. Guitar Tel Mt 5th pp
481 El. Guitar Tel Mt 5th p
482 El. Guitar Tel Mt 5th mf
483 El. Guitar Tel Mt 5th f
484 El. Guitar Tel Mt 5th ff
485 El. Guitar Tel Mt 5th Ko
486 El. Guitar Clean Str p
487 El. Guitar Clean Str f
488 El. Guitar Clean Mute
489 El. Guitar Clean Dead
490 El. Guitar Clean Slap
491 El. Guitar Clean Slide
492 El. Guitar Clean GM
493 El. Guitar Fret Noise GM
494 El. Guitar Cut Noise GM
495 El. Guitar Le Neck
496 El. Guitar Le Bridge
497 El. Guitar Le Mute p
498 El. Guitar Le Mute mf
499 El. Guitar Le Ghost1
500 El. Guitar Le Ghost2
501 El. Guitar Harmonics
502 El. Guitar Gliss Down
503 El. Guitar Gliss Up
504 El. Guitar Noise
505 El. Guitar Short Noise
506 El. Guitar Fret Noise
507 El. Guitar Les P.
508 Jazz Guitar1
509 Jazz Guitar2
510 Jazz Gib mellow p
511 Jazz Gib mellow mf
512 Jazz Gib mellow f
513 Pedal Steel Guitar
514 Resonator Guitar
515 Vox Wah Guitar
516 Overdrive GM
517 Dist. Guitar
518 Dist. Guitar GM

519 Dist. Guitar1 Harmo.
520 Gtr Harmonic GM
521 Dist. Guitar2 Harmo P1
522 Dist. Guitar2 Harmo P2
523 Dist. Guitar2 Mute1
524 Dist. Guitar2 Mute2
525 El. Guitar DistMuted p
526 El. Guitar DistMuted mp
527 El. Guitar PowerChord1
528 El. Guitar PowerChord2
529 El. Guitar PowerChord3
530 Ac.Bass Natural
531 Ac.Bass Natural Key Off
532 Ac.Bass Natural Ghost
533 Acoustic Bass1
534 Acoustic Bass2 mf
535 Acoustic Bass2 f
536 Acoustic Bass3 mp
537 Acoustic Bass3 mp VAR
538 Acoustic Bass3 mf
539 Acoustic Bass3 mf VAR
540 Acoustic Bass3 f
541 Acoustic Bass3 f VAR
542 Acoustic Bass GM
543 Acoustic Bass RX Noises
544 Bass Prec FW Finger
545 Bass Prec RW Finger
546 Bass Prec RW FingerDeads
547 Bass Prec Pick Open mf
548 Bass Prec Pick Open f
549 Bass Prec Pick Dead
550 Bass Sray Finger
551 Bass Sray Harmonics
552 Bass Sray Deads
553 Bass Sray HandNoise
554 Bass Almb Fingered mf
555 Bass Almb Fingered f
556 Bass Fjazz Fingered
557 Bass Fjazz pickmute mf
558 Bass Fjazz pickmute f
559 Bass Fjazz Ghost
560 E.Bass1 Finger
561 E.Bass2 P.B.1
562 E.Bass2 P.B.2
563 E.Bass2 LH Stop
564 E.Bass2 RH Stop
565 E.Bass2 Harmo.
566 E.Bass3 p
567 E.Bass3 mf
568 E.Bass3 f Slap
569 E.Bass4 Pick
570 E.Bass4 Harmo.
571 E.Bass4 Slap
572 E.Bass4 SlapHar
573 E.Bass4 LH Mute
574 E.Bass4 RH Mute
575 E.Bass5 Finger
576 E.Bass6 Finger
577 E.Bass6 FingerLP
578 E.Bass7 Finger
579 E.Bass8 Pick
580 E.Bass9 Pick Muted1
581 E.Bass9 Pick Muted2
582 E.Bass10 Pick
583 E.Bass10 PickLP
584 E.Bass11 Thumb
585 E.Bass12 SlapThumb
586 E.Bass12 SlapThumbLP
587 E.Bass Gliss
588 E.Bass Noise1
589 E.Bass Noise2
590 E.Bass Harmonics
591 E.Bass HarmonicsLP
592 E.Bass Fretless 1
593 E.Bass Fretless 2
594 Finger Bass GM
595 Picked Bass GM
596 Slap Bass1 GM
597 Slap Bass2 GM
598 Fretless Bass GM
599 Sitar1
600 Sitar2
601 Sitar GM
602 Sitar & Tambura
603 Zither
604 Santur
605 SanturLP
606 Tambura
607 TamburaLP
608 Bouzouki
609 BouzoukiLP
610 Mandolin Dw mf L
611 Mandolin Dw mf R
612 Mandolin Dw f L
613 Mandolin Dw f R
614 Mandolin Up L
615 Mandolin Up R
616 Mandolin
617 MandolinLP
618 Mandolin Tremolo
619 Mandolin Ensemble
620 Banjo
621 Banjo GM
622 BanjoLP
623 Ukulele
624 Shamisen
625 Shamisen GM
626 Koto
627 Koto GM
628 M.E. Oud
629 M.E. Oud Tek
630 M.E. Kanoun1
631 M.E. Kanoun2
632 M.E. Kanoun Tremolo
633 M.E. Baglama1
634 M.E. Baglama2
635 M.E. Zurna
636 M.E. Klarnet Tek
637 M.E. Klarnet
638 M.E. Nay
639 Mouth Harp1
640 Mouth Harp2
641 Mouth Harp3
642 Mouth Harp4
643 Mouth Harp5
644 Syn Flute Pad
645 Syn Bass Reso1
646 Syn Bass FM1
647 Syn Bass FM1LP
648 Syn Bass FM2
649 Syn Bass FM2LP
650 Syn Bass TB
651 R&B Saw Bass
652 R&B Square Bass
653 Chrom Res

654 Detuned Super
655 Detuned PWM
656 Synth Brass
657 PopSynth-2
658 An.Strings1
659 An.Strings2
660 Analog Vintage
661 White Pad
662 N1 Air Vox
663 SynthBell
664 Ether Bell
665 Ether BellLP
666 Lore
667 Lore NT
668 Space Lore
669 Wave Sweep1
670 Wave Sweep2
671 Wave Sweep3
672 Syn Ghostly
673 Ghost
674 Syn Air Pad
675 Dream Str
676 Syn AirVortex
677 Syn Palawan
678 Syn Clicker
679 Cricket Spectrum
680 Noise1
681 Noise2
682 Noise Pad
683 Swish Terra
684 Gamelan XEQ
685 Saw1
686 Saw2
687 Saw3
688 Pulse 02%
689 Pulse 05%
690 Pulse 08%
691 Pulse 16%
692 Pulse 33%
693 Pulse 40%
694 Square
695 Square MG
696 Square JP
697 Triangle MG
698 Ramp
699 Ramp MG
700 Sine
701 DWGS Syn Sine1
702 DWGS Syn Sine2
703 DWGS Organ1
704 DWGS Organ2
705 DWGS Bell1
706 DWGS Bell2
707 DWGS Bell3
708 DWGS Bell4
709 DWGS Clav.
710 DWGS Digi1
711 DWGS Digi2
712 DWGS Wire1
713 DWGS Wire2
714 DWGS Sync1
715 DWGS Sync2
716 DWGS Sync3
717 Orchestra Hit 1
718 Orchestra Hit 2
719 Orchestra Hit GM L
720 Orchestra Hit GM R
721 Band Hit
722 Impact Hit
723 Brass Fall
724 Vibe Chord
725 Zap1
726 Zap2
727 Stadium
728 Applause
729 Birds1
730 Birds2
731 Crickets
732 Church Bell
733 Thunder
734 Stream
735 Bubble
736 Dog
737 Gallop
738 Laughing
739 Telephone Ring
740 Scream
741 Punch
742 Heart Beat
743 Footstep1
744 Footstep2
745 Door Creak
746 Door Slam
747 Car Engine
748 Car EngineLP
749 Car Stop
750 Car Pass
751 Car Crash
752 Train
753 Helicopter
754 Gun Shot
755 Machine Gun
756 Laser Gun
757 Explosion
758 Wind
759 Chinese Gong
760 Crash
761 Crash Reverse
762 Crash Reverse GM
763 Orchestra Crash
764 Ride Jazz
765 Ride Edge1
766 Ride Edge2
767 HiHat Closed
768 88 HiHat Open
769 88 Cowbell
770 88 Tom
771 88 Conga
772 88 Crash
773 Tom
774 Tom Brush
775 Tom Process
776 Electric Tom
777 Melodic Tom GM
778 Flexatone
779 Tambourine
780 Agogo Bell
781 Meditation Tree
782 Marc Tree
783 Marc TreeLP
784 Rain Stick
785 Cowbell
786 Castanet
787 Temple Blocks
788 Orchestra BD

789 Timpani
790 Taiko
791 Djembe Open
792 Djembe Mute
793 Conga
794 Quinto & Bongo
795 Okonkolo
796 Timbales
797 Cowbell & Clave
798 Cabasa
799 Shaker
800 Cabasa & Shaker
801 Dumbek - Djambe - Udu
802 Caxixi
803 Tabla & Baya
804 WoodBlock & Castanet
805 Mix Latin Percussion
806 Kangaroo
807 DJ Eddie Set
808 Claps Natural Set1 L
809 Claps Natural Set1 R
810 Claps Natural Set2 L
811 Claps Natural Set2 R
812 Claps Natural Set3 L
813 Claps Natural Set3 R
814 Snare Ghost
815 Stereo Snares1&2 L
816 Stereo Snares1&2 R
817 Stereo Snare1 L
818 Stereo Snare1 R
819 Stereo Snare2 L
820 Stereo Snare2 R
821 FX SD Large Hall1 L
822 FX SD Large Hall1 R
823 FX SD Large Hall2 L
824 FX SD Large Hall2 R
825 FX Rim Large Hall1 L
826 FX Rim Large Hall1 R
827 FX Rim Large Hall2 L
828 FX Rim Large Hall2 R
829 Click
830 Empty

Drum Samples

The following table lists all Pa3X Factory Drum Samples.

#	Name	Family
0	BD 22 Inch Std1	Bass Drum
1	BD 22 Inch Std2	Bass Drum
2	BD 22 Inch Std3	Bass Drum
3	BD 22 Inch Std4	Bass Drum
4	BD 22 Inch Std5	Bass Drum
5	BD 22 Inch Std6	Bass Drum
6	BD 24x14 p	Bass Drum
7	BD 24x14 mf	Bass Drum
8	BD 24x14 f	Bass Drum
9	BD 24x14 f GM	Bass Drum
10	BD 24 inch Open p	Bass Drum
11	BD 24 inch Open mf	Bass Drum
12	BD 24 inch Open f	Bass Drum
13	BD 26 inch Open p	Bass Drum
14	BD 26 inch Open mf	Bass Drum
15	BD 26 inch Open f	Bass Drum
16	BD 26 inch Open ff	Bass Drum
17	BD 26 inch Open ff GM	Bass Drum
18	BD 26 inch Std p	Bass Drum
19	BD 26 inch Std mf	Bass Drum
20	BD 26 inch Std f	Bass Drum
21	BD 26 inch Std ff	Bass Drum
22	BD Natural1 p	Bass Drum
23	BD Natural1 mf	Bass Drum
24	BD Natural1 f	Bass Drum
25	BD Natural2 p	Bass Drum
26	BD Natural2 mf	Bass Drum
27	BD Natural2 f	Bass Drum
28	BD Natural2 ff	Bass Drum
29	BD Pop1	Bass Drum
30	BD Pop2	Bass Drum
31	BD Pop3 p	Bass Drum
32	BD Pop3 f	Bass Drum
33	BD Pop4 p	Bass Drum
34	BD Pop4 f	Bass Drum
35	BD Pop5	Bass Drum
36	BD Acoustic1 p	Bass Drum
37	BD Acoustic1 mf	Bass Drum
38	BD Acoustic1 f	Bass Drum
39	BD Acoustic2 mf	Bass Drum
40	BD Acoustic2 mf GM	Bass Drum
41	BD Acoustic2 f	Bass Drum
42	BD Acoustic2 f GM	Bass Drum
43	BD open p	Bass Drum
44	BD open mf	Bass Drum
45	BD open f	Bass Drum
46	BD Peak	Bass Drum
47	BD Dry1	Bass Drum
48	BD Dry2	Bass Drum
49	BD Dry3	Bass Drum
50	BD Normal	Bass Drum
51	BD SoftRoom	Bass Drum
52	BD Jazz open p	Bass Drum
53	BD Jazz open f	Bass Drum
54	BD Jazz wire open p	Bass Drum
55	BD Jazz wire open f	Bass Drum
56	BD Jazz	Bass Drum
57	BD Jazz GM	Bass Drum
58	BD Pillow	Bass Drum
59	BD Woofer	Bass Drum
60	BD MondoKill	Bass Drum
61	BD Terminator	Bass Drum
62	BD Tubby	Bass Drum
63	BD Gated	Bass Drum
64	BD Tight	Bass Drum
65	BD Squash	Bass Drum
66	BD Soul1	Bass Drum
67	BD Soul2	Bass Drum
68	BD Soul3 dist	Bass Drum
69	BD Soul4 noise	Bass Drum
70	BD Soul5 Long	Bass Drum
71	BD Soul6	Bass Drum
72	BD Dance1	Bass Drum
73	BD Dance2	Bass Drum
74	BD Dance3	Bass Drum
75	BD House1	Bass Drum
76	BD House2	Bass Drum
77	BD House3	Bass Drum
78	BD House4	Bass Drum
79	BD House5	Bass Drum
80	BD Liquid	Bass Drum
81	BD Techno1	Bass Drum
82	BD Techno2	Bass Drum
83	BD Hip1	Bass Drum
84	BD Hip2	Bass Drum
85	BD Hip3	Bass Drum
86	BD Hip4	Bass Drum
87	BD Kick1	Bass Drum
88	BD Kick2	Bass Drum
89	Electro Kick	Bass Drum
90	BD Ambient	Bass Drum
91	BD Ambient Crackle	Bass Drum
92	BD Ambient Rocker	Bass Drum
93	BD Pop	Bass Drum
94	BD Deep	Bass Drum
95	BD Deep GM	Bass Drum
96	BD Klanger	Bass Drum
97	BD Electribe01	Bass Drum
98	BD Electribe02	Bass Drum
99	BD Electribe03	Bass Drum
100	BD Electribe04	Bass Drum
101	BD Electribe05	Bass Drum
102	BD Electribe06	Bass Drum
103	BD Electribe07	Bass Drum
104	BD Electribe08	Bass Drum
105	BD Electribe09	Bass Drum
106	BD Electribe10	Bass Drum
107	BD Electribe11	Bass Drum
108	BD Electribe12	Bass Drum
109	BD Electribe13	Bass Drum
110	BD Electribe14	Bass Drum
111	BD Electribe15	Bass Drum
112	BD Electribe16	Bass Drum
113	BD Electribe17	Bass Drum
114	Syn. BD1	Bass Drum
115	Syn. BD2	Bass Drum
116	Syn. BD3	Bass Drum
117	Syn. BD4	Bass Drum
118	Syn. BD Buzz	Bass Drum
119	BD Orchestra Open p	Bass Drum
120	BD Orchestra Open f	Bass Drum
121	BD Orchestra muted	Bass Drum
122	BD Orchestra	Bass Drum
123	BD Orchestra GM	Bass Drum
124	Timpani	Bass Drum
125	SD Crv p	Snare Drum
126	SD Crv mf	Snare Drum
127	SD Crv f	Snare Drum
128	SD Crv+Rim p	Snare Drum
129	SD Crv+Rim mf	Snare Drum
130	SD Crv+Rim f	Snare Drum
131	SD CrvOpen pp	Snare Drum
132	SD CrvOpen p	Snare Drum
133	SD CrvOpen mf	Snare Drum
134	SD CrvOpen f	Snare Drum
135	SD CrvOpRim pp	Snare Drum
136	SD CrvOpRim p	Snare Drum
137	SD CrvOpRim mf	Snare Drum
138	SD CrvOpRim f	Snare Drum
139	SD Crv Roll p	Snare Drum
140	SD Crv Roll mf	Snare Drum
141	SD Crv Roll f	Snare Drum
142	SD Crv Stage p	Snare Drum
143	SD Crv Stage mf	Snare Drum
144	SD Crv Stage f	Snare Drum
145	SD Crv+Rim Stage p	Snare Drum
146	SD Crv+Rim Stage mf	Snare Drum

#	Name	Family
147	SD Crv+Rim Stage f	Snare Drum
148	SD Crv Open Stage pp	Snare Drum
149	SD Crv Open Stage p	Snare Drum
150	SD Crv Open Stage mf	Snare Drum
151	SD Crv Open Stage f	Snare Drum
152	SD Crv OpRim Stage pp	Snare Drum
153	SD Crv OpRim Stage p	Snare Drum
154	SD Crv OpRim Stage mf	Snare Drum
155	SD Crv OpRim Stage f	Snare Drum
156	SD Crv Gate1 p	Snare Drum
157	SD Crv Gate1 mf	Snare Drum
158	SD Crv Gate1 f	Snare Drum
159	SD Crv+Rim Gate1 p	Snare Drum
160	SD Crv+Rim Gate1 mf	Snare Drum
161	SD Crv+Rim Gate1 f	Snare Drum
162	SD Crv OpRim Gate1 pp	Snare Drum
163	SD Crv OpRim Gate1 p	Snare Drum
164	SD Crv OpRim Gate1 mf	Snare Drum
165	SD Crv OpRim Gate1 f	Snare Drum
166	SD Crv Roll Gate1 p	Snare Drum
167	SD Crv Roll Gate1 mf	Snare Drum
168	SD Crv Roll Gate1 f	Snare Drum
169	SD Crv Gate2 p	Snare Drum
170	SD Crv Gate2 mf	Snare Drum
171	SD Crv Gate2 f	Snare Drum
172	SD Crv+Rim Gate2 p	Snare Drum
173	SD Crv+Rim Gate2 mf	Snare Drum
174	SD Crv+Rim Gate2 f	Snare Drum
175	SD Crv Roll Gate2 p	Snare Drum
176	SD Crv Roll Gate2 mf	Snare Drum
177	SD Crv Roll Gate2 f	Snare Drum
178	SD Crv+Rim Plate p	Snare Drum
179	SD Crv+Rim Plate mf	Snare Drum
180	SD Crv+Rim Plate f	Snare Drum
181	SD Crv Open Plate pp	Snare Drum
182	SD Crv Open Plate p	Snare Drum
183	SD Crv Open Plate mf	Snare Drum
184	SD Crv Open Plate f	Snare Drum
185	SD Crv OpRim Plate pp	Snare Drum
186	SD Crv OpRim Plate p	Snare Drum
187	SD Crv OpRim Plate mf	Snare Drum
188	SD Crv OpRim Plate f	Snare Drum
189	SD Crv Open Room pp	Snare Drum
190	SD Crv Open Room p	Snare Drum
191	SD Crv Open Room mf	Snare Drum
192	SD Crv Open Room f	Snare Drum
193	SD Crv OpRim Room pp	Snare Drum
194	SD Crv OpRim Room p	Snare Drum
195	SD Crv OpRim Room mf	Snare Drum
196	SD Crv OpRim Room f	Snare Drum
197	SD LdwBB1A Cl1	Snare Drum
198	SD LdwBB1A Cl2	Snare Drum
199	SD LdwBB1A Cl3	Snare Drum
200	SD LdwBB1A Cl4	Snare Drum
201	SD LdwBB1A OpRim1	Snare Drum
202	SD LdwBB1A OpRim2	Snare Drum
203	SD LdwBB1A OpRim3	Snare Drum
204	SD LdwBB1A OpRim4	Snare Drum
205	SD LdwBB1A Roll1	Snare Drum
206	SD LdwBB1A Roll2	Snare Drum
207	SD LdwBB1A Roll3	Snare Drum
208	SD LdwBB1B Op1	Snare Drum
209	SD LdwBB1B Op2	Snare Drum
210	SD LdwBB1B Op3	Snare Drum
211	SD LdwBB1B Op4	Snare Drum
212	SD LdwBB1B OpRim1	Snare Drum
213	SD LdwBB1B OpRim2	Snare Drum
214	SD LdwBB1B OpRim3	Snare Drum
215	SD LdwBB1B OpRim4	Snare Drum
216	SD LdwBB2 OpRim1	Snare Drum
217	SD LdwBB2 OpRim2	Snare Drum
218	SD LdwBB2 Std1	Snare Drum
219	SD LdwBB2 Std2	Snare Drum
220	SD LdwBB2 Std3	Snare Drum
221	SD LdwBB2 Roll1	Snare Drum
222	SD LdwBB2 Roll2	Snare Drum
223	SD LdwBB2 Roll3	Snare Drum
224	SD LdwBB2 Roll4	Snare Drum
225	SD LdwSup Std p	Snare Drum
226	SD LdwSup Std mf	Snare Drum
227	SD LdwSup Std f	Snare Drum
228	SD LdwSup Std+Rim p	Snare Drum
229	SD LdwSup Std+Rim mf	Snare Drum
230	SD LdwSup Std+Rim f	Snare Drum
231	SD LdwSup Std Gate p	Snare Drum
232	SD LdwSup Std Gate mf	Snare Drum
233	SD LdwSup Std Gate f	Snare Drum
234	SD LdwSup S+R Gate p	Snare Drum
235	SD LdwSup S+R Gate mf	Snare Drum
236	SD LdwSup S+R Gate f	Snare Drum
237	SD LdwSup Std Room p	Snare Drum
238	SD LdwSup Std Room mf	Snare Drum
239	SD LdwSup Std Room f	Snare Drum
240	SD LdwSup S+R Room p	Snare Drum
241	SD LdwSup S+R Room mf	Snare Drum
242	SD LdwSup S+R Room f	Snare Drum
243	SD LdwVintage Std p	Snare Drum
244	SD LdwVintage Std mf	Snare Drum
245	SD LdwVintage Std f	Snare Drum
246	SD LdwVintage Std ff	Snare Drum
247	SD LdwVintage S+Rim p	Snare Drum
248	SD LdwVintage S+Rim mf	Snare Drum
249	SD LdwVintage S+Rim f	Snare Drum
250	SD Ldw Roll p	Snare Drum
251	SD Ldw Roll mf	Snare Drum
252	SD Ldw Roll f	Snare Drum
253	SD LdwVint Room p	Snare Drum
254	SD LdwVint Room mf	Snare Drum
255	SD LdwVint Room f	Snare Drum
256	SD LdwVint Room ff	Snare Drum
257	SD LdwVint room S+R p	Snare Drum
258	SD LdwVint room S+R mf	Snare Drum
259	SD LdwVint room S+R f	Snare Drum
260	SD Ldw Roll room p	Snare Drum
261	SD Ldw Roll room mf	Snare Drum
262	SD Ldw Roll room f	Snare Drum
263	SD Spr Std p	Snare Drum
264	SD Spr Std mf	Snare Drum
265	SD Spr Std f	Snare Drum
266	SD Spr StdRim p	Snare Drum
267	SD Spr StdRim mf	Snare Drum
268	SD Spr StdRim f	Snare Drum
269	SD Spr Open p	Snare Drum
270	SD Spr Open mf	Snare Drum
271	SD Spr Open f	Snare Drum
272	SD Spr Open ff	Snare Drum
273	SD Spr OpRim p	Snare Drum
274	SD Spr OpRim mf	Snare Drum
275	SD Spr OpRim f	Snare Drum
276	SD Spr OpRim ff	Snare Drum
277	SD Spr Roll p	Snare Drum
278	SD Spr Roll mf	Snare Drum
279	SD P.E. Std p	Snare Drum
280	SD P.E. Std mf	Snare Drum
281	SD P.E. Std f	Snare Drum
282	SD P.E. Std+Rim p	Snare Drum
283	SD P.E. Std+Rim mf	Snare Drum
284	SD P.E. Std+Rim f	Snare Drum
285	SD P.E. Open p	Snare Drum
286	SD P.E. Open mf	Snare Drum
287	SD P.E. Open f	Snare Drum
288	SD P.E. OpRim mf	Snare Drum
289	SD P.E. OpRim f	Snare Drum
290	SD P.E. Roll mf	Snare Drum
291	SD P.E. Roll f	Snare Drum
292	SD Natural p	Snare Drum
293	SD Natural mf	Snare Drum
294	SD Natural f	Snare Drum
295	SD Natural Rim p	Snare Drum
296	SD Natural Rim mf	Snare Drum
297	SD Natural Rim f	Snare Drum
298	SD Dry center1	Snare Drum
299	SD Dry center2	Snare Drum
300	SD Dry center3	Snare Drum
301	SD Dry Rim1	Snare Drum
302	SD Dry Rim2	Snare Drum
303	SD Dry Rim3	Snare Drum
304	SD Dry Roll	Snare Drum
305	SD Pop1 p	Snare Drum

#	Name	Family
306	SD Pop1 p GM	Snare Drum
307	SD Pop1 mf	Snare Drum
308	SD Pop1 mf GM	Snare Drum
309	SD Pop1 f	Snare Drum
310	SD Pop1 f GM	Snare Drum
311	SD Pop1 +Rim mf	Snare Drum
312	SD Pop1 +Rim mf GM	Snare Drum
313	SD Pop1 +Rim f	Snare Drum
314	SD Pop1 +Rim f GM	Snare Drum
315	SD Pop2 p	Snare Drum
316	SD Pop2 mf	Snare Drum
317	SD Pop2 f	Snare Drum
318	SD Pop2 ff	Snare Drum
319	SD Flam	Snare Drum
320	SD Black	Snare Drum
321	SD S Gate1	Snare Drum
322	SD S Gate1 GM	Snare Drum
323	SD S Gate2	Snare Drum
324	SD S Gate3	Snare Drum
325	SD Wood1 p	Snare Drum
326	SD Wood1 mf	Snare Drum
327	SD Wood1 f	Snare Drum
328	SD Wood2 pp	Snare Drum
329	SD Wood2 p	Snare Drum
330	SD Wood2 mf	Snare Drum
331	SD Wood2 f	Snare Drum
332	SD Piccolo1 pp	Snare Drum
333	SD Piccolo1 p	Snare Drum
334	SD Piccolo1 mf	Snare Drum
335	SD Piccolo1 f	Snare Drum
336	SD Piccolo2 pp	Snare Drum
337	SD Piccolo2 p	Snare Drum
338	SD Piccolo2 mf	Snare Drum
339	SD Piccolo2 f	Snare Drum
340	SD Solid1 p	Snare Drum
341	SD Solid1 mf	Snare Drum
342	SD Solid1 f	Snare Drum
343	SD Solid2 p	Snare Drum
344	SD Solid2 mf	Snare Drum
345	SD Solid2 f	Snare Drum
346	SD Maple1 pp	Snare Drum
347	SD Maple1 p	Snare Drum
348	SD Maple1 mp	Snare Drum
349	SD Maple1 mf	Snare Drum
350	SD Maple1 f	Snare Drum
351	SD Maple1 ff	Snare Drum
352	SD Maple2 pp	Snare Drum
353	SD Maple2 p	Snare Drum
354	SD Maple2 mp	Snare Drum
355	SD Maple2 mf	Snare Drum
356	SD Maple2 f	Snare Drum
357	SD Maple2 ff	Snare Drum
358	SD Brass1 p	Snare Drum

#	Name	Family
359	SD Brass1 mf	Snare Drum
360	SD Brass1 f	Snare Drum
361	SD Brass2 p	Snare Drum
362	SD Brass2 mf	Snare Drum
363	SD Brass2 f	Snare Drum
364	SD Roll	Snare Drum
365	SD Ghost Roll	Snare Drum
366	SD Ghost p	Snare Drum
367	SD Ghost f	Snare Drum
368	SD Snr Ghost1 a	Snare Drum
369	SD Snr Ghost1 b	Snare Drum
370	SD Snr Ghost2 a	Snare Drum
371	SD Snr Ghost2 b	Snare Drum
372	SD Snr Ghost2 c	Snare Drum
373	SD Snr Signature p	Snare Drum
374	SD Snr Signature mf	Snare Drum
375	SD Snr Signature f	Snare Drum
376	SD Snr Signature Rim mf	Snare Drum
377	SD Snr Signature Rim f	Snare Drum
378	SD Snr Signature Rim1	Snare Drum
379	SD Snr Signature Rim2	Snare Drum
380	SD J center p	Snare Drum
381	SD J center f	Snare Drum
382	SD J edge1	Snare Drum
383	SD J edge2	Snare Drum
384	SD J edge3	Snare Drum
385	SD J edge4	Snare Drum
386	SD J std p	Snare Drum
387	SD J std mf	Snare Drum
388	SD J std f	Snare Drum
389	SD J std+rim p	Snare Drum
390	SD J std+rim mf	Snare Drum
391	SD J std+rim f	Snare Drum
392	SD Dry1	Snare Drum
393	SD Dry2	Snare Drum
394	SD Dry3	Snare Drum
395	SD Full Room	Snare Drum
396	SD Off Center	Snare Drum
397	SD Jazz Ring	Snare Drum
398	SD Amb.Piccolo	Snare Drum
399	SD Paper	Snare Drum
400	SD Big Rock	Snare Drum
401	SD Yowie	Snare Drum
402	SD Trinity1	Snare Drum
403	SD Trinity2	Snare Drum
404	SD Stereo Gate	Snare Drum
405	SD Stereo Gate GM	Snare Drum
406	SD Processed	Snare Drum
407	SD Processed GM	Snare Drum
408	SD Cracker Room	Snare Drum
409	SD El. Funk1	Snare Drum
410	SD El. Funk2	Snare Drum
411	SD El. Funk3	Snare Drum

#	Name	Family
412	SD Dance01	Snare Drum
413	SD Dance02	Snare Drum
414	SD Dance03	Snare Drum
415	SD Dance04	Snare Drum
416	SD Dance05	Snare Drum
417	SD Dance06	Snare Drum
418	SD Dance07	Snare Drum
419	SD Dance08	Snare Drum
420	SD Dance09	Snare Drum
421	SD Dance10	Snare Drum
422	SD Dance11	Snare Drum
423	SD Dance12	Snare Drum
424	SD Dance13	Snare Drum
425	SD Dance14	Snare Drum
426	SD Dance15	Snare Drum
427	SD Dance16	Snare Drum
428	SD Dance17	Snare Drum
429	SD Dance18	Snare Drum
430	SD Dance19	Snare Drum
431	SD Dance20	Snare Drum
432	SD Dance21	Snare Drum
433	SD Dance22	Snare Drum
434	SD Dance23	Snare Drum
435	SD Dance23 GM	Snare Drum
436	SD Dance24	Snare Drum
437	SD House1	Snare Drum
438	SD House2	Snare Drum
439	SD House3	Snare Drum
440	SD House4	Snare Drum
441	SD BeatBox	Snare Drum
442	SD Small	Snare Drum
443	SD Rap	Snare Drum
444	SD Noise	Snare Drum
445	SD Reverse	Snare Drum
446	SD Hip1	Snare Drum
447	SD Hip2	Snare Drum
448	SD Hip3	Snare Drum
449	SD Hip4	Snare Drum
450	SD Hip5	Snare Drum
451	SD Hip6	Snare Drum
452	SD Ringy	Snare Drum
453	SD Tiny	Snare Drum
454	SD Vintage1	Snare Drum
455	SD Vintage2	Snare Drum
456	SD Vintage3	Snare Drum
457	SD Vintage4	Snare Drum
458	SD Vintage5	Snare Drum
459	SD Vintage6	Snare Drum
460	SD AmbiHop	Snare Drum
461	SD Brasser	Snare Drum
462	SD Chili	Snare Drum
463	SD Whopper	Snare Drum
464	SD Syn.1	Snare Drum

#	Name	Family
465	SD Syn.2	Snare Drum
466	SD Syn.3	Snare Drum
467	SD Syn.4	Snare Drum
468	SD Electro	Snare Drum
469	SD Orchestra	Snare Drum
470	SD Orch. Roll	Snare Drum
471	SD JBrush Loop1	Snare Drum
472	SD JBrush loop2	Snare Drum
473	SD JBrush mid	Snare Drum
474	SD JBrush open p	Snare Drum
475	SD JBrush open mf	Snare Drum
476	SD JBrush open f	Snare Drum
477	SD JBrush short	Snare Drum
478	SD JBrush shot p	Snare Drum
479	SD BrushHit1	Snare Drum
480	SD BrushHit2	Snare Drum
481	SD JazzBrush1	Snare Drum
482	SD JazzBrush2	Snare Drum
483	SD Brush1 (swirl1)	Snare Drum
484	SD Brush1 (swirl2)	Snare Drum
485	SD Brush1 (swirl3)	Snare Drum
486	SD Brush1 (swirl4)	Snare Drum
487	SD Brush1	Snare Drum
488	SD Brush2 (ghost1)	Snare Drum
489	SD Brush2 (ghost2)	Snare Drum
490	SD Brush2 (ghost3)	Snare Drum
491	SD Brush2	Snare Drum
492	SD Brush2 (fill) 4 shots	Snare Drum
493	SD Brush2 (fill) 3 shots	Snare Drum
494	SD Brush2 (fill) 2 shots	Snare Drum
495	SD Brush3 Hit	Snare Drum
496	SD Brush3 Tap1	Snare Drum
497	SD Brush3 Tap2	Snare Drum
498	SD Brush3 Swirl	Snare Drum
499	SD FX Large Hall1	Snare Drum
500	SD FX Large Hall2	Snare Drum
501	Rim1 m Studio	Snare Drum
502	Rim2 m Studio	Snare Drum
503	Rim3 m Studio	Snare Drum
504	Rim4 m Studio	Snare Drum
505	Rim1 st Studio	Snare Drum
506	Rim2 st Studio	Snare Drum
507	Rim3 st Studio	Snare Drum
508	Rim4 st Studio	Snare Drum
509	Rim1 m rev 80's	Snare Drum
510	Rim2 m rev 80's	Snare Drum
511	Rim3 m rev 80's	Snare Drum
512	Rim4 m rev 80's	Snare Drum
513	Rim1 st rev 80's	Snare Drum
514	Rim2 st rev 80's	Snare Drum
515	Rim3 st rev 80's	Snare Drum
516	Rim4 st rev 80's	Snare Drum
517	Rim1 m Gate 1	Snare Drum
518	Rim2 m Gate 1	Snare Drum
519	Rim3 m Gate 1	Snare Drum
520	Rim4 m Gate 1	Snare Drum
521	Rim1 st Gate 1	Snare Drum
522	Rim2 st Gate 1	Snare Drum
523	Rim3 st Gate 1	Snare Drum
524	Rim4 st Gate 1	Snare Drum
525	Rim1 m Gate 2	Snare Drum
526	Rim2 m Gate 2	Snare Drum
527	Rim3 m Gate 2	Snare Drum
528	Rim4 m Gate 2	Snare Drum
529	Rim1 st Gate 2	Snare Drum
530	Rim2 st Gate 2	Snare Drum
531	Rim3 st Gate 2	Snare Drum
532	Rim4 st Gate 2	Snare Drum
533	Rim1 m Hall	Snare Drum
534	Rim2 m Hall	Snare Drum
535	Rim3 m Hall	Snare Drum
536	Rim4 m Hall	Snare Drum
537	Rim1 st Hall	Snare Drum
538	Rim2 st Hall	Snare Drum
539	Rim3 st Hall	Snare Drum
540	Rim4 st Hall	Snare Drum
541	Rim1 Amb	Snare Drum
542	Rim2 Amb	Snare Drum
543	Rim3 Amb	Snare Drum
544	Rim4 Amb	Snare Drum
545	Rim Signature Hi	Snare Drum
546	Rim Signature Mid	Snare Drum
547	Rim Signature Low	Snare Drum
548	Rim Shot p	Snare Drum
549	Rim Shot f	Snare Drum
550	Rim House1	Snare Drum
551	Rim House2	Snare Drum
552	Rim Synth	Snare Drum
553	Rim Synth Click	Snare Drum
554	Rim Synth Tamb	Snare Drum
555	Rim FX Large Hall1	Snare Drum
556	Rim FX Large Hall2	Snare Drum
557	Sidestick mf	Snare Drum
558	Sidestick f	Snare Drum
559	Sidestick Dance	Snare Drum
560	SideStick Dry	Snare Drum
561	SideStick Amb	Snare Drum
562	DrumStick Hit	Snare Drum
563	DrumStick Hit GM	Snare Drum
564	Tom D Hi p	Tom
565	Tom D Hi mf	Tom
566	Tom D Hi f	Tom
567	Tom D Mid p	Tom
568	Tom D Mid mf	Tom
569	Tom D Mid f	Tom
570	Tom D Low p	Tom
571	Tom D Low mf	Tom
572	Tom D Low f	Tom
573	Tom D Floor p	Tom
574	Tom D Floor mf	Tom
575	Tom D Floor f	Tom
576	Tom P Hi	Tom
577	Tom P Mid	Tom
578	Tom P Low	Tom
579	Tom P Floor	Tom
580	Tom R Vintage Hi	Tom
581	Tom R Vintage Mid	Tom
582	Tom R Vintage Floor	Tom
583	Tom Vintage Room Hi	Tom
584	Tom Vintage Room Mid	Tom
585	Tom Vintage Room Low	Tom
586	Tom Jazz Hi center	Tom
587	Tom Jazz Hi center GM	Tom
588	Tom Jazz Hi edge	Tom
589	Tom Jazz Hi Rim	Tom
590	Tom Jazz Low center	Tom
591	Tom Jazz Low center GM	Tom
592	Tom Jazz Low edge	Tom
593	Tom Jazz Low Rim	Tom
594	Tom1 Open Hi p	Tom
595	Tom1 Open Hi p flam	Tom
596	Tom1 Open Hi f	Tom
597	Tom1 Open Hi f flam	Tom
598	Tom1 Open Mid p	Tom
599	Tom1 Open Mid p flam	Tom
600	Tom1 Open Mid f	Tom
601	Tom1 Open Mid f flam	Tom
602	Tom1 Open Low p	Tom
603	Tom1 Open Low p flam	Tom
604	Tom1 Open Low f	Tom
605	Tom1 Open Low f flam	Tom
606	Tom1 Open Floor p	Tom
607	Tom1 Open Floor p flam	Tom
608	Tom1 Open Floor f	Tom
609	Tom1 Open Floor f flam	Tom
610	Tom2 Hi p	Tom
611	Tom2 Hi f	Tom
612	Tom2 Mid p	Tom
613	Tom2 Mid f	Tom
614	Tom2 Low p	Tom
615	Tom2 Low f	Tom
616	Tom2 Floor p	Tom
617	Tom2 Floor f	Tom
618	Tom3 Hi	Tom
619	Tom3 Floor	Tom
620	Tom4 Hi	Tom
621	Tom4 Low	Tom
622	Tom4 Floor	Tom
623	Tom5 Hi	Tom

#	Name	Family
624	Tom5 Low	Tom
625	Tom6 Vintage Hi p	Tom
626	Tom6 Vintage Hi mf	Tom
627	Tom6 Vintage Hi f	Tom
628	Tom6 Vintage Mid p	Tom
629	Tom6 Vintage Mid mf	Tom
630	Tom6 Vintage Mid f	Tom
631	Tom6 Vintage Low p	Tom
632	Tom6 Vintage Low mf	Tom
633	Tom6 Vintage Low f	Tom
634	Tom Processed	Tom
635	Tom Jazz Hi	Tom
636	Tom Jazz Floor	Tom
637	Tom Brush1 (sd open)	Tom
638	Tom Brush1 (sd close)	Tom
639	Tom Brush2 (sd open)	Tom
640	Tom Brush2 (sd close)	Tom
641	Tom Brush3 Hi mf	Tom
642	Tom Brush3 Hi f	Tom
643	Tom Brush3 Hi f GM	Tom
644	Tom Brush3 Mid mf	Tom
645	Tom Brush3 Mid f	Tom
646	Tom Brush3 Mid f GM	Tom
647	Tom Brush3 Low mf	Tom
648	Tom Brush3 Low f	Tom
649	Tom Brush3 Low f GM	Tom
650	Tom Brush4	Tom
651	Tom Brush5 Amb Hi	Tom
652	Tom Brush5 Amb Low	Tom
653	E.Tom FM	Tom
654	E.Tom Real	Tom
655	HiHat Soul cl p	HiHat
656	HiHat Soul cl mf	HiHat
657	HiHat Soul cl f	HiHat
658	HiHat Soul op p	HiHat
659	HiHat Soul op mf	HiHat
660	HiHat Soul op f	HiHat
661	HiHat Vintage cl p	HiHat
662	HiHat Vintage cl mf	HiHat
663	HiHat Vintage cl f	HiHat
664	HiHat Vintage op	HiHat
665	HiHat Jazz tip cl a	HiHat
666	HiHat Jazz tip cl b	HiHat
667	HiHat Jazz tip cl c	HiHat
668	HiHat Jazz tip op1 a	HiHat
669	HiHat Jazz tip op1 b	HiHat
670	HiHat Jazz tip op1 c	HiHat
671	HiHat Jazz tip op2 a	HiHat
672	HiHat Jazz tip op2 b	HiHat
673	HiHat Jazz tip op3	HiHat
674	HiHat Jazz cl a	HiHat
675	HiHat Jazz cl b	HiHat
676	HiHat Jazz cl c	HiHat

#	Name	Family
677	HiHat Jazz op1 a	HiHat
678	HiHat Jazz op1 b	HiHat
679	HiHat Jazz op1 c	HiHat
680	HiHat Jazz op2 a	HiHat
681	HiHat Jazz op2 b	HiHat
682	HiHat Jazz op3	HiHat
683	HiHat Jazz op4	HiHat
684	HiHat Jazz ped cl	HiHat
685	HiHat Jazz ped op	HiHat
686	HH1 Closed pp	HiHat
687	HH1 Closed p	HiHat
688	HH1 Closed mf	HiHat
689	HH1 Closed f	HiHat
690	HH1 Foot mp	HiHat
691	HH1 Foot mf	HiHat
692	HH1 Open mp	HiHat
693	HH1 Open mf	HiHat
694	HH2 Closed pp	HiHat
695	HH2 Closed p	HiHat
696	HH2 Closed mp	HiHat
697	HH2 Closed mf	HiHat
698	HH2 Closed f	HiHat
699	HH2 Closed ff	HiHat
700	HH2 Foot p	HiHat
701	HH2 Foot f	HiHat
702	HH2 Open p	HiHat
703	HH2 Open f	HiHat
704	HH3 Closed1	HiHat
705	HH3 Closed2	HiHat
706	HH3 Foot	HiHat
707	HH3 Open1	HiHat
708	HH3 Open2	HiHat
709	HH3 Sizzle	HiHat
710	HH4 Closed1	HiHat
711	HH4 Closed2	HiHat
712	HH4 Foot	HiHat
713	HH4 Foot Open	HiHat
714	HH4 Open	HiHat
715	HH Old Close1	HiHat
716	HH Old Open1	HiHat
717	HH Old TiteClose	HiHat
718	HH Old Close2	HiHat
719	HH Old Open2	HiHat
720	HH House Open1	HiHat
721	HH House Open2	HiHat
722	HH Hip	HiHat
723	HH Alpo Close	HiHat
724	HH Dance1	HiHat
725	HH Dance2	HiHat
726	HH Syn. Closed	HiHat
727	HH Syn. Open	HiHat
728	HH Brush cl 1	HiHat
729	HH Brush cl 2	HiHat

#	Name	Family
730	HH Brush cl 3	HiHat
731	HH Brush op 1	HiHat
732	HH Brush op 2	HiHat
733	HH Brush op 3	HiHat
734	HH Brush op 4	HiHat
735	Ride Z 20 edge1	Cymbal
736	Ride Z 20 edge2	Cymbal
737	Ride Z 20 edge3	Cymbal
738	Ride Z 20 edge4	Cymbal
739	Ride Z 20 edge5	Cymbal
740	Ride Z 20 edge6	Cymbal
741	Ride Z 20 cup1	Cymbal
742	Ride Z 20 cup2	Cymbal
743	Ride Z 20 cup3	Cymbal
744	Ride Z Brush Edge 1	Cymbal
745	Ride Z Brush Edge 2	Cymbal
746	Ride Z Brush Cup	Cymbal
747	Crash Z 20	Cymbal
748	Ride 20' mp1	Cymbal
749	Ride 20' mp2	Cymbal
750	Ride 20' mf1	Cymbal
751	Ride 20' mf2	Cymbal
752	Ride Edge1	Cymbal
753	Ride Edge2	Cymbal
754	Ride Cup	Cymbal
755	Ride Jazz	Cymbal
756	Ride Brush1	Cymbal
757	Ride Brush2	Cymbal
758	Ride Brush3	Cymbal
759	Ride Rivet	Cymbal
760	Ride Rivet Amb	Cymbal
761	Crash 15'edge1	Cymbal
762	Crash 15'edge2	Cymbal
763	Crash 17'edge1	Cymbal
764	Crash 17'edge2	Cymbal
765	Crash 19'open1	Cymbal
766	Crash 19'open2	Cymbal
767	Crash 1	Cymbal
768	Crash 2	Cymbal
769	Crash Reverse	Cymbal
770	Crash Dance 99	Cymbal
771	Crash DDD-1	Cymbal
772	Splash 8'edge1	Cymbal
773	Splash 8'edge2	Cymbal
774	Splash	Cymbal
775	China	Cymbal
776	Orchestra Cymbal	Cymbal
777	Finger Snaps	Low Perc.
778	Claps Natural 1a	Low Perc.
779	Claps Natural 1b	Low Perc.
780	Claps Natural 1c	Low Perc.
781	Claps Natural 1d	Low Perc.
782	Claps Natural 2a	Low Perc.

#	Name	Family
783	Claps Natural 2b	Low Perc.
784	Claps Natural 2c	Low Perc.
785	Claps Natural 2d	Low Perc.
786	Claps Natural 2e	Low Perc.
787	Claps Natural 3a	Low Perc.
788	Claps Natural 3b	Low Perc.
789	Claps Natural 3c	Low Perc.
790	Claps Natural 3d	Low Perc.
791	Claps Natural 3e	Low Perc.
792	Claps Natural 3f	Low Perc.
793	Claps Natural 3g	Low Perc.
794	Claps Natural 3h	Low Perc.
795	Claps1	Low Perc.
796	Claps2	Low Perc.
797	Claps3	Low Perc.
798	Claps4	Low Perc.
799	Dance Claps1	Low Perc.
800	Dance Claps2	Low Perc.
801	Dance Claps3	Low Perc.
802	Dance Claps4	Low Perc.
803	Dance Claps5	Low Perc.
804	Dance Claps6	Low Perc.
805	Dance Conga1 Lo-Open	Low Perc.
806	Dance Conga1 Hi-Open	Low Perc.
807	Dance Tambourine	Hi Perc.
808	Electric Bongo	Low Perc.
809	Syn. Bongo1	Low Perc.
810	Syn. Bongo2	Low Perc.
811	Syn. Castanet	Low Perc.
812	Syn. Shaker	Hi Perc.
813	Syn. Noise	SFX
814	Syn. FX1	SFX
815	Syn. FX2	SFX
816	Syn. FX3	SFX
817	Syn. FX4	SFX
818	Syn. FX5	SFX
819	Syn. Perc. Ahh	SFX
820	Boom	SFX
821	Zap1	SFX
822	Zap2	SFX
823	Vinyl Hit	SFX
824	DJ Vinyl Sliced 01	SFX
825	DJ Vinyl Sliced 02	SFX
826	DJ Vinyl Sliced 03	SFX
827	DJ Vinyl Sliced 04	SFX
828	DJ Vinyl Sliced 05	SFX
829	DJ Vinyl Sliced 06	SFX
830	DJ Vinyl Sliced 07	SFX
831	DJ Vinyl Sliced 08	SFX
832	DJ Vinyl Sliced 09	SFX
833	DJ Vinyl Sliced 10	SFX
834	DJ Vinyl Sliced 11	SFX
835	DJ Vinyl Sliced 12	SFX

#	Name	Family
836	DJ Vinyl Sliced 13	SFX
837	DJ Vinyl Sliced 14	SFX
838	DJ Vinyl Sliced 15	SFX
839	DJ Vinyl Sliced 16	SFX
840	DJ Vinyl Sliced 17	SFX
841	DJ Vinyl Sliced 18	SFX
842	DJ Vinyl Sliced 19	SFX
843	DJ Vinyl Sliced 20	SFX
844	DJ Vinyl Sliced 21	SFX
845	DJ Vinyl Sliced 22	SFX
846	DJ Vinyl Sliced 23	SFX
847	DJ Vinyl Sliced 24	SFX
848	DJ Scratch 01	SFX
849	DJ Scratch 02	SFX
850	DJ Scratch 03	SFX
851	DJ Scratch 04	SFX
852	DJ Scratch 05	SFX
853	DJ Scratch 06	SFX
854	DJ Hit Rub	SFX
855	DJ Vocal Rub1	SFX
856	DJ Vocal Rub2	SFX
857	DJ BD Rub	SFX
858	DJ SD Rub	SFX
859	Guiro Long	Low Perc.
860	Guiro Short	Low Perc.
861	Vibraslap	Hi Perc.
862	Samba Whistle	Hi Perc.
863	Samba Whistle Lp	Hi Perc.
864	Cuica Hi	Low Perc.
865	Cuica Lo	Low Perc.
866	Surdo Open GM	Low Perc.
867	Surdo Mute GM	Low Perc.
868	Tumba Open1 mf	Low Perc.
869	Tumba Open1 f	Low Perc.
870	Tumba Open2 mf	Low Perc.
871	Tumba Open2 f	Low Perc.
872	Tumba Open Flam	Low Perc.
873	Tumba Glissando	Low Perc.
874	Tumba Basstone	Low Perc.
875	Tumba O.Slap Flam mf	Low Perc.
876	Tumba O.Slap Flam f	Low Perc.
877	Tumba Muffled	Low Perc.
878	Conga1 Lo Basstone	Low Perc.
879	Conga1 Lo Open mf	Low Perc.
880	Conga1 Lo Open Slap	Low Perc.
881	Conga1 Lo Glissando	Low Perc.
882	Conga1 Lo Muffled	Low Perc.
883	Conga1 Lo Closed	Low Perc.
884	Conga1 Lo Closed Slap	Low Perc.
885	Conga1 Lo Heel	Low Perc.
886	Conga1 Lo Toe	Low Perc.
887	Conga1 Hi Basstone mf	Low Perc.
888	Conga1 Hi Basstone f	Low Perc.

#	Name	Family
889	Conga1 Hi Open mf	Low Perc.
890	Conga1 Hi Open Slap	Low Perc.
891	Conga1 Hi Muffled	Low Perc.
892	Conga1 Hi Closed	Low Perc.
893	Conga1 Hi Closed Slap	Low Perc.
894	Conga1 Hi Heel	Low Perc.
895	Conga1 Hi Toe	Low Perc.
896	Conga2 Lo Open	Low Perc.
897	Conga2 Lo Mt Slap	Low Perc.
898	Conga2 Lo Slap	Low Perc.
899	Conga2 Hi Open	Low Perc.
900	Conga2 Hi Mute	Low Perc.
901	Conga2 Hi Mt Slap	Low Perc.
902	Conga2 Hi Slap1	Low Perc.
903	Conga2 Hi Slap2	Low Perc.
904	Conga2 Heel	Low Perc.
905	Conga2 Toe	Low Perc.
906	Quinto1 Open	Low Perc.
907	Quinto1 Closed	Low Perc.
908	Quinto1 Closed Slap	Low Perc.
909	Quinto1 Toe	Low Perc.
910	Quinto2 Basstone	Low Perc.
911	Quinto2 Open mp	Low Perc.
912	Quinto2 Open Flam	Low Perc.
913	Quinto2 Open Slap	Low Perc.
914	Quinto2 Muffled	Low Perc.
915	Quinto2 C.Slap Flam p	Low Perc.
916	Quinto2 C.Slap Flam f	Low Perc.
917	Quinto2 Heel	Low Perc.
918	Bongo1 Lo Muffled mp	Low Perc.
919	Bongo1 Lo Muffled f	Low Perc.
920	Bongo1 Lo Closed	Low Perc.
921	Bongo1 Lo Flam	Low Perc.
922	Bongo1 Lo MuffledFlam	Low Perc.
923	Bongo1 Lo Stick	Low Perc.
924	Bongo1 Lo StickEdge mf	Low Perc.
925	Bongo1 Lo StickEdge f	Low Perc.
926	Bongo1 Lo StickBounce	Low Perc.
927	Bongo1 Lo Fingernail	Low Perc.
928	Bongo1 Lo Cuptone	Low Perc.
929	Bongo1 Lo Slap	Low Perc.
930	Bongo1 Hi Open mf	Low Perc.
931	Bongo1 Hi Open f	Low Perc.
932	Bongo1 Hi Pops	Low Perc.
933	Bongo1 Hi Hightone	Low Perc.
934	Bongo1 Hi OpenFlam	Low Perc.
935	Bongo1 Hi Fingernail	Low Perc.
936	Bongo1 Hi Stick	Low Perc.
937	Bongo1 Hi StickEdge mf	Low Perc.
938	Bongo1 Hi StickEdge f	Low Perc.
939	Bongo1 Hi StickBounce	Low Perc.
940	Bongo1 Hi Cuptone	Low Perc.
941	Bongo1 Hi Slap	Low Perc.

#	Name	Family
942	Bongo2 Lo Open a	Low Perc.
943	Bongo2 Lo Open b	Low Perc.
944	Bongo2 Lo Mute	Low Perc.
945	Bongo2 Hi Open a	Low Perc.
946	Bongo2 Hi Open b	Low Perc.
947	Bongo2 Hi Muffled	Low Perc.
948	Bongo2 Hi Slap	Low Perc.
949	Bongo2 Lo Heel	Low Perc.
950	Bongo2 Lo Muffled	Low Perc.
951	Bongo3 Lo Open	Low Perc.
952	Bongo3 Lo Slap	Low Perc.
953	Bongo3 Lo Stick	Low Perc.
954	Bongo3 Hi Open	Low Perc.
955	Bongo3 Hi Slap	Low Perc.
956	Bongo3 Hi Stick1	Low Perc.
957	Bongo3 Hi Stick2	Low Perc.
958	Okonkolo Boca Open mp	Low Perc.
959	Okonkolo Boca Open mf	Low Perc.
960	Okonkolo Boca Open f	Low Perc.
961	Okonkolo Boca Open ff	Low Perc.
962	Okonkolo Chacha Open mp	Low Perc.
963	Okonkolo Chacha Open mf	Low Perc.
964	Okonkolo Chacha Open f	Low Perc.
965	Okonkolo Chacha Open ff	Low Perc.
966	Okonkolo Chacha Slap mp	Low Perc.
967	Okonkolo Chacha Slap mf	Low Perc.
968	Okonkolo Chacha Slap f	Low Perc.
969	Baya Open	Low Perc.
970	Baya Ghe	Low Perc.
971	Baya GheUp a	Low Perc.
972	Baya GheUp b	Low Perc.
973	Baya KaPalm	Low Perc.
974	Baya KaToe a	Low Perc.
975	Baya KaToe b	Low Perc.
976	Baya Nail a	Low Perc.
977	Baya Nail b	Low Perc.
978	Baya Nail c	Low Perc.
979	Baya Ge	Low Perc.
980	Baya Up	Low Perc.
981	Baya UpDown a	Low Perc.
982	Baya UpDown b	Low Perc.
983	Baya Mute1	Low Perc.
984	Baya Mute2	Low Perc.
985	Baya Mute3	Low Perc.
986	Tabla1 Na	Low Perc.
987	Tabla1 Open	Low Perc.
988	Tabla1 Tin	Low Perc.
989	Tabla1 Mute1	Low Perc.
990	Tabla1 Mute2	Low Perc.
991	Tabla1 Mute3	Low Perc.
992	Tabla2 Tin a	Low Perc.
993	Tabla2 Tin b	Low Perc.
994	Tabla2 Na a	Low Perc.

#	Name	Family
995	Tabla2 Na b	Low Perc.
996	Tabla2 Na c	Low Perc.
997	Tabla2 Tun a	Low Perc.
998	Tabla2 Tun b	Low Perc.
999	Tabla2 Tele a	Low Perc.
1000	Tabla2 Tele b	Low Perc.
1001	Tabla2 Tele c	Low Perc.
1002	Tabla2 Ti a	Low Perc.
1003	Tabla2 Ti b	Low Perc.
1004	Tabla2 Ti c	Low Perc.
1005	Tabla2 Tera	Low Perc.
1006	Tsuzumi	Low Perc.
1007	Taiko Open	Low Perc.
1008	Taiko Rim	Low Perc.
1009	Timbales1 Lo Open mp	Low Perc.
1010	Timbales1 Lo Open mf	Low Perc.
1011	Timbales1 Lo Open mf GM	Low Perc.
1012	Timbales1 Lo Edge mf	Low Perc.
1013	Timbales1 Lo Edge f	Low Perc.
1014	Timbales1 Lo RimShot	Low Perc.
1015	Timbales1 Lo Abanico	Low Perc.
1016	Timbales1 Lo Roll	Low Perc.
1017	Timbales1 Lo Mute mf	Low Perc.
1018	Timbales1 Lo Mute f	Low Perc.
1019	Timbales1 Lo Paila mf	Hi Perc.
1020	Timbales1 Lo Paila f	Hi Perc.
1021	Timbales1 Hi Open	Low Perc.
1022	Timbales1 Hi Edge	Low Perc.
1023	Timbales1 Hi Edge GM	Low Perc.
1024	Timbales1 Hi RimShot mf	Low Perc.
1025	Timbales1 Hi RimShot f	Low Perc.
1026	Timbales1 Hi RimShot ff	Low Perc.
1027	Timbales1 Hi Abanico1	Low Perc.
1028	Timbales1 Hi Abanico2	Low Perc.
1029	Timbales1 Hi Mute	Low Perc.
1030	Timbales1 Hi Paila mf	Hi Perc.
1031	Timbales1 Hi Paila f	Hi Perc.
1032	Timbales2 Lo Open	Low Perc.
1033	Timbales2 Lo Mute	Low Perc.
1034	Timbales2 Lo Rim	Low Perc.
1035	Timbales2 Hi Edge	Low Perc.
1036	Timbales2 Hi Rim1	Low Perc.
1037	Timbales2 Hi Rim2	Low Perc.
1038	Timbales2 Paila	Hi Perc.
1039	Cowbell1	Hi Perc.
1040	Cowbell2	Hi Perc.
1041	Cowbell3	Hi Perc.
1042	Cowbell4 Open	Hi Perc.
1043	Cowbell4 Mute	Hi Perc.
1044	Cowbell5 Open a	Hi Perc.
1045	Cowbell5 Open b	Hi Perc.
1046	Cowbell5 Mute	Hi Perc.
1047	Cowbell6	Hi Perc.

#	Name	Family
1048	Cowbell7-Open	Hi Perc.
1049	Cowbell7-Mute	Hi Perc.
1050	Agogo Bell	Hi Perc.
1051	Chacha Bell	Hi Perc.
1052	Mambo Bell	Hi Perc.
1053	Recoreco short1	Hi Perc.
1054	Recoreco short2	Hi Perc.
1055	Recoreco short3	Hi Perc.
1056	Recoreco long	Hi Perc.
1057	Triangle1 Open	Hi Perc.
1058	Triangle1 Mute	Hi Perc.
1059	Triangle2 Open Lp	Hi Perc.
1060	Triangle2 Closed c	Hi Perc.
1061	Sleigh Bell	Hi Perc.
1062	Rap Sleigh Bell	Hi Perc.
1063	Jingle Bell	Hi Perc.
1064	Bells Open	Hi Perc.
1065	Finger Cymbal	Hi Perc.
1066	Marc Tree	Hi Perc.
1067	Marc Tree GM	Hi Perc.
1068	Marc TreeLP	Hi Perc.
1069	Rainstick	SFX
1070	Flexatone	Hi Perc.
1071	Chinese Gong	Cymbal
1072	Claves1 Lo a	Low Perc.
1073	Claves1 Lo b	Low Perc.
1074	Claves1 Hi a	Low Perc.
1075	Claves1 Hi b	Low Perc.
1076	Claves2	Low Perc.
1077	Wood Block 1 a	Low Perc.
1078	Wood Block 1 b	Low Perc.
1079	Wood Block 2 a	Low Perc.
1080	Wood Block 2 b	Low Perc.
1081	Wood Block 3 a	Low Perc.
1082	Wood Block 3 b	Low Perc.
1083	Wood Block 4 a	Low Perc.
1084	Wood Block 4 b	Low Perc.
1085	Wood Block 5 a	Low Perc.
1086	Wood Block 5 b	Low Perc.
1087	Wood Block 6 a	Low Perc.
1088	Wood Block 6 b	Low Perc.
1089	Wood Block 7	Low Perc.
1090	Wood Block 8	Low Perc.
1091	Castanet 1 a	Low Perc.
1092	Castanet 1 b	Low Perc.
1093	Castanet 1 c	Low Perc.
1094	Castanet 2	Low Perc.
1095	Castanet Single	Low Perc.
1096	Castanet Single GM	Low Perc.
1097	Castanet Double	Low Perc.
1098	Cabasa 1 L a Down	Hi Perc.
1099	Cabasa 1 L a Up	Hi Perc.
1100	Cabasa 1 L b Down	Hi Perc.

#	Name	Family
1101	Cabasa 1 L b Up	Hi Perc.
1102	Cabasa 1 S a Down	Hi Perc.
1103	Cabasa 1 S a Up	Hi Perc.
1104	Cabasa 1 S b Down	Hi Perc.
1105	Cabasa 1 S b up	Hi Perc.
1106	Cabasa 2 L Stack b	Hi Perc.
1107	Cabasa 2 L Stack a	Hi Perc.
1108	Cabasa 2 L Roll	Hi Perc.
1109	Cabasa 2 S Stack a	Hi Perc.
1110	Cabasa 2 S Stack b	Hi Perc.
1111	Cabasa 2 S Roll	Hi Perc.
1112	Cabasa 3 WS	Hi Perc.
1113	Cabasa 3 Up	Hi Perc.
1114	Cabasa 3 Down	Hi Perc.
1115	Cabasa 3 Tap	Hi Perc.
1116	Caxixi1 a	Hi Perc.
1117	Caxixi1 b	Hi Perc.
1118	Caxixi1 c	Hi Perc.
1119	Caxixi2 a	Hi Perc.
1120	Caxixi2 b	Hi Perc.
1121	Caxixi2 c	Hi Perc.
1122	Caxixi3 Hard	Hi Perc.
1123	Caxixi3 Soft	Hi Perc.
1124	Shaker1 Push a	Hi Perc.
1125	Shaker1 Push b	Hi Perc.
1126	Shaker1 Pull a	Hi Perc.
1127	Shaker1 Pull b	Hi Perc.
1128	Shaker1 Accent a	Hi Perc.
1129	Shaker1 Accent b	Hi Perc.
1130	Shaker1 Slow a	Hi Perc.
1131	Shaker1 Slow b	Hi Perc.
1132	Shaker1 Slow c	Hi Perc.
1133	Shaker1 Roll a	Hi Perc.
1134	Shaker1 Roll b	Hi Perc.
1135	Shaker1 Roll c	Hi Perc.
1136	Shaker2	Hi Perc.
1137	Shaker3	Hi Perc.
1138	Maracas Push	Hi Perc.
1139	Maracas Pull	Hi Perc.
1140	Dumbek a	Low Perc.
1141	Dumbek b	Low Perc.
1142	Dumbek c	Low Perc.
1143	Dumbek d	Low Perc.
1144	Dumbek e	Low Perc.
1145	Dumbek f	Low Perc.
1146	Dumbek g	Low Perc.
1147	Dumbek h	Low Perc.
1148	Dumbek i	Low Perc.
1149	Dumbek j	Low Perc.
1150	Dumbek k	Low Perc.
1151	Djembe L Basstone a	Low Perc.
1152	Djembe L Basstone b	Low Perc.
1153	Djembe L Basstone c	Low Perc.
1154	Djembe L Open	Low Perc.
1155	Djembe L Open Slap	Low Perc.
1156	Djembe L Closed Slap	Low Perc.
1157	Djembe S Basstone a	Low Perc.
1158	Djembe S Basstone b	Low Perc.
1159	Djembe S Basstone c	Low Perc.
1160	Djembe Open	Low Perc.
1161	Djembe Mute	Low Perc.
1162	Djembe Slap	Low Perc.
1163	Djembe S Open	Low Perc.
1164	Djembe S Open Slap a	Low Perc.
1165	Djembe S Open Slap b	Low Perc.
1166	Djembe S Closed Slap a	Low Perc.
1167	Djembe S Closed Slap b	Low Perc.
1168	Djembe S Closed Slap c	Low Perc.
1169	Djembe Bass	Low Perc.
1170	Udu Open a	Low Perc.
1171	Udu Open b	Low Perc.
1172	Udu Open c	Low Perc.
1173	Udu Open d	Low Perc.
1174	Udu Slide a	Hi Perc.
1175	Udu Slide b	Hi Perc.
1176	Udu Half Open a	Low Perc.
1177	Udu Half Open b	Low Perc.
1178	Udu Half Open c	Low Perc.
1179	Udu Bell a	Low Perc.
1180	Udu Bell b	Low Perc.
1181	WD Brazillia1	Snare Drum
1182	WD Brazillia2	Snare Drum
1183	WD Ethno SD1	Snare Drum
1184	WD Ethno SD2	Snare Drum
1185	WD Ethno SD3	Snare Drum
1186	WD Ethno SD4	Snare Drum
1187	WD Ethno SD5	Snare Drum
1188	WD Ethno SD6	Snare Drum
1189	WD Kangaroo1	Snare Drum
1190	WD Kangaroo2	SFX
1191	WD Kangaroo3	SFX
1192	WD Kangaroo4	SFX
1193	WD Kangaroo5	SFX
1194	WD Kangaroo6	SFX
1195	WD Kangaroo7	SFX
1196	WD Kangaroo8	SFX
1197	Tambourine Push	Hi Perc.
1198	Tambourine Pull	Hi Perc.
1199	Tambourine Acc1 A	Hi Perc.
1200	Tambourine Acc1 B	Hi Perc.
1201	Tambourine Acc2	Hi Perc.
1202	Tambourine Mute1	Low Perc.
1203	Tambourine Mute2	Low Perc.
1204	Tambourine Open	Low Perc.
1205	M.E.1 Douf Rim Ak	Low Perc.
1206	M.E.1 Douf Tek Ak1	Low Perc.
1207	M.E.1 Douf Tek Ak2	Low Perc.
1208	M.E.1 Pand Open	Low Perc.
1209	M.E.1 Pand Pattern1	Low Perc.
1210	M.E.1 Pand Pattern2	Low Perc.
1211	M.E.1 Pand Pattern3	Low Perc.
1212	M.E.1 Pand Pattern4	Low Perc.
1213	M.E.1 Rek Dom Ak	Hi Perc.
1214	M.E.1 Rek Jingle	Hi Perc.
1215	M.E.1 Rik1	Low Perc.
1216	M.E.1 Rik2	Low Perc.
1217	M.E.1 Rik3	Low Perc.
1218	M.E.1 Sagat Half Open	Hi Perc.
1219	M.E.1 Sagat Close	Hi Perc.
1220	M.E.1 Surdo L Open	Low Perc.
1221	M.E.1 Surdo L Mute	Low Perc.
1222	M.E.1 Tabla Medium	Low Perc.
1223	M.E.1 Tabla Dom	Low Perc.
1224	M.E.1 Tabla Flam	Low Perc.
1225	M.E.1 Tabla Rim	Low Perc.
1226	M.E.1 Tabla Tak	Low Perc.
1227	M.E.1 Timbales	Hi Perc.
1228	M.E.1 Udu f Open	Low Perc.
1229	M.E.1 Alkis	Low Perc.
1230	M.E.1 Bandir Open	Low Perc.
1231	M.E.1 Bandir Closed	Low Perc.
1232	M.E.1 Bongo Roll	Low Perc.
1233	M.E.1 Darbuka1 Tek1	Low Perc.
1234	M.E.1 Darbuka1 Tek2	Low Perc.
1235	M.E.1 Darbuka1 Open	Low Perc.
1236	M.E.1 Darbuka1 Closed	Low Perc.
1237	M.E.1 Darbuka2	Low Perc.
1238	M.E.1 Darbuka3	Low Perc.
1239	M.E.1 Darbuka4	Low Perc.
1240	M.E.1 Darbuka5 D1	Low Perc.
1241	M.E.1 Darbuka5 D2	Low Perc.
1242	M.E.1 Darbuka5 D3	Low Perc.
1243	M.E.1 Darbuka6 Mute	Low Perc.
1244	M.E.1 Darbuka6 Open	Low Perc.
1245	M.E.1 Darbuka6 Rim	Low Perc.
1246	M.E.1 Darbuka6 Dom Ak	Low Perc.
1247	M.E.1 Davul	Hi Perc.
1248	M.E.1 Hollo1	Low Perc.
1249	M.E.1 Hollo2	Low Perc.
1250	M.E.1 Kup1	Low Perc.
1251	M.E.1 Kup2	Low Perc.
1252	M.E.1 Ramazan Davul1	Low Perc.
1253	M.E.1 Ramazan Davul2	Low Perc.
1254	M.E.1 Ramazan Davul3	Low Perc.
1255	M.E.1 Tef1	Hi Perc.
1256	M.E.1 Tef2	Hi Perc.
1257	M.E.1 Tef3	Hi Perc.
1258	M.E.2 BD Kick	Bass Drum
1259	M.E.2 SD	Snare Drum

#	Name	Family
1260	M.E.2 Asagum	Low Perc.
1261	M.E.2 Asmatek	Low Perc.
1262	M.E.2 Bendirgum	Low Perc.
1263	M.E.2 Bendirtek1	Low Perc.
1264	M.E.2 Bendirtek2	Low Perc.
1265	M.E.2 Dm1	Low Perc.
1266	M.E.2 Findik	Low Perc.
1267	M.E.2 Gum	Low Perc.
1268	M.E.2 Hollotokat	Low Perc.
1269	M.E.2 Islik1	SFX
1270	M.E.2 Islik2	SFX
1271	M.E.2 Kapalit	Low Perc.
1272	M.E.2 Kasik1	Low Perc.
1273	M.E.2 Kasik2	Low Perc.
1274	M.E.2 Kasik3	Low Perc.
1275	M.E.2 Kasik4	Low Perc.
1276	M.E.2 Kemik	Low Perc.
1277	M.E.2 Kenar1	Low Perc.
1278	M.E.2 Kenartek	Low Perc.
1279	M.E.2 Ramazangum	Low Perc.
1280	M.E.2 Ramazantek	Low Perc.
1281	M.E.2 Renk	Low Perc.
1282	M.E.2 Renkbir	Low Perc.
1283	M.E.2 Renkiki	Low Perc.
1284	M.E.2 Tefacik	Low Perc.
1285	M.E.2 Tefgum	Low Perc.
1286	M.E.2 Teftek1	Low Perc.
1287	M.E.2 Teftokat	Low Perc.
1288	M.E.2 Teftrill	Low Perc.
1289	M.E.2 Tefzil	Low Perc.
1290	M.E.2 Tek1	Low Perc.
1291	M.E.2 Tek2	Low Perc.
1292	M.E.2 Tekbir	Low Perc.
1293	M.E.2 Tokat	Low Perc.
1294	M.E.2 Toprgum	Low Perc.
1295	M.E.2 Toprtek1	Low Perc.
1296	M.E.2 Toprtek2	Low Perc.
1297	M.E.2 Toprtokat	Low Perc.
1298	M.E.2 TRILL1	Low Perc.
1299	M.E.2 Zil1	Hi Perc.
1300	M.E.2 Zil2	Hi Perc.
1301	M.E.2 Zil3	Hi Perc.
1302	M.E.2 Zilgit	SFX
1303	Orchestra Hit	SFX
1304	Band Hit	SFX
1305	Impact Hit	SFX
1306	Metal Hit	SFX
1307	Yeah!	SFX
1308	Yeah! Solo	SFX
1309	Uhh	SFX
1310	Hit It	SFX
1311	Uhhhh Solo	SFX
1312	Comp Voice Noise	SFX

#	Name	Family
1313	Stadium	SFX
1314	Applause	SFX
1315	Scream	SFX
1316	Laughing	SFX
1317	Footsteps1	SFX
1318	Footsteps2	SFX
1319	Bird1	SFX
1320	Bird2	SFX
1321	Dog	SFX
1322	Gallop	SFX
1323	Crickets	SFX
1324	Cat	SFX
1325	Growl	SFX
1326	Heart Beat	SFX
1327	Heart Beat GM	SFX
1328	Punch	SFX
1329	Tribe	SFX
1330	Door Creak	SFX
1331	Door Slam	SFX
1332	Car Engine	SFX
1333	Car Stop	SFX
1334	Car Pass	SFX
1335	Car Crash	SFX
1336	Train	SFX
1337	Helicopter	SFX
1338	Gun Shot1	SFX
1339	Gun Shot2	SFX
1340	Machine Gun	SFX
1341	Laser Gun	SFX
1342	Explosion	SFX
1343	Thunder	SFX
1344	Wind	SFX
1345	Stream	SFX
1346	Bubble	SFX
1347	Bubble GM	SFX
1348	Church Bell	SFX
1349	Telephone Ring	SFX
1350	Xylophone Spectr	SFX
1351	Cricket Spectrum	SFX
1352	Air Vortex	SFX
1353	Noise White	SFX
1354	Noise FM Mod	SFX
1355	Tubular	Hi Perc.
1356	Gamelan	Hi Perc.
1357	Tambura	Hi Perc.
1358	Gtr Cut Noise1	SFX
1359	Gtr Cut Noise2	SFX
1360	Power Chord	SFX
1361	Fret Noise	SFX
1362	Dist. Slide1	SFX
1363	Dist. Slide2	SFX
1364	E.Gtr Pick1	SFX
1365	E.Gtr Pick2	SFX

#	Name	Family
1366	Gtr Scratch1	SFX
1367	Gtr Scratch2	SFX
1368	Ac.Bs-String Slap	SFX
1369	Amp Noise	SFX
1370	Space Lore	SFX
1371	Swish Terra	SFX
1372	Hand Drill	SFX
1373	Mouth Harp	SFX
1374	Grv BD1	Bass Drum
1375	Grv BD2	Bass Drum
1376	Grv BD3	Bass Drum
1377	Grv BD4	Bass Drum
1378	Grv BD5	Bass Drum
1379	Grv BD6	Bass Drum
1380	Grv BD7	Bass Drum
1381	Grv BD8	Bass Drum
1382	Grv BD9	Bass Drum
1383	Grv BD10	Bass Drum
1384	Grv BD11	Bass Drum
1385	Grv BD12	Bass Drum
1386	Grv BD13	Bass Drum
1387	Grv BD14	Bass Drum
1388	Grv BD15	Bass Drum
1389	Grv BD16	Bass Drum
1390	Grv BD17	Bass Drum
1391	Grv SD1	Snare Drum
1392	Grv SD2	Snare Drum
1393	Grv SD3	Snare Drum
1394	Grv SD4	Snare Drum
1395	Grv SD5	Snare Drum
1396	Grv SD6	Snare Drum
1397	Grv SD7	Snare Drum
1398	Grv SD8	Snare Drum
1399	Grv SD9	Snare Drum
1400	Grv SD10	Snare Drum
1401	Grv SD11	Snare Drum
1402	Grv SD12	Snare Drum
1403	Grv SD13	Snare Drum
1404	Grv SD14	Snare Drum
1405	Grv SD15	Snare Drum
1406	Grv Rim1	Snare Drum
1407	Grv Rim2	Snare Drum
1408	Grv Rim3	Snare Drum
1409	Grv Rim4	Snare Drum
1410	Grv Rim5	Snare Drum
1411	Grv Rim6	Snare Drum
1412	Grv HH Closed1	HiHat
1413	Grv HH Closed2	HiHat
1414	Grv HH Closed3	HiHat
1415	Grv HH Closed4	HiHat
1416	Grv HH Closed5	HiHat
1417	Grv HH Closed6	HiHat
1418	Grv HH Closed7	HiHat

#	Name	Family
1419	Grv HH Closed8	HiHat
1420	Grv HH Closed9	HiHat
1421	Grv HH Closed10	HiHat
1422	Grv HH Closed11	HiHat
1423	Grv HH Closed12	HiHat
1424	Grv HH Open1	HiHat
1425	Grv HH Open2	HiHat
1426	Grv Hi Tom1	Tom
1427	Grv Hi Tom2	Tom
1428	Grv Low Tom1	Tom
1429	Grv Low Tom2	Tom
1430	Grv Ride	Cymbal
1431	Grv Crash1	Cymbal
1432	Grv Crash2	Cymbal
1433	Grv Claps1	Low Perc.
1434	Grv Claps2	Low Perc.
1435	Grv Claps3	Low Perc.
1436	Grv Fx1	SFX
1437	Grv Fx2	SFX
1438	Grv Fx3	SFX
1439	Grv Fx4	SFX
1440	Grv Fx5	SFX
1441	Grv Fx6	SFX
1442	Grv Fx7	SFX
1443	Grv Fx8	SFX
1444	Grv Fx9	SFX
1445	Grv Fx10	SFX
1446	Grv Fx11	SFX
1447	Grv Fx12	SFX
1448	Grv Fx13	SFX
1449	Grv Fx14	SFX
1450	Grv Fx15	SFX
1451	Grv Fx16	SFX
1452	Grv Fx17	SFX
1453	Grv Fx18	SFX
1454	Grv Fx19	SFX
1455	Grv Fx20	SFX
1456	Grv Fx21	SFX
1457	Grv Fx22	SFX
1458	Grv Fx23	SFX
1459	Grv Fx24	SFX
1460	Grv Fx25	SFX
1461	Grv Fx26	SFX
1462	Grv Fx27	SFX
1463	Grv Fx28	SFX
1464	Grv Fx29	SFX
1465	Grv Fx30	SFX
1466	Grv Fx31	SFX
1467	Grv Fx32	SFX
1468	Grv Fx33	SFX
1469	Grv Fx34	SFX
1470	Grv Fx35	SFX
1471	Grv Slice1	SFX
1472	Grv Slice2	SFX
1473	Grv Slice3	SFX
1474	Grv Slice4	SFX
1475	Grv Slice5	SFX
1476	Grv Slice6	SFX
1477	Grv Slice7	SFX
1478	Grv Slice8	SFX
1479	Grv Slice9	SFX
1480	Grv Slice10	SFX
1481	Grv Slice11	SFX
1482	Grv Slice12	SFX
1483	Grv Slice13	SFX
1484	Grv Slice14	SFX
1485	Grv Slice15	SFX
1486	Grv Slice16	SFX
1487	Grv Slice17	SFX
1488	Grv Slice18	SFX
1489	Grv Slice19	SFX
1490	78 BD	Bass Drum
1491	78 SD1	Snare Drum
1492	78 SD2	Snare Drum
1493	78 HH Cl1	HiHat
1494	78 HH Cl2	HiHat
1495	78 HH Open	HiHat
1496	78 Tom	Tom
1497	78 Cymbal	Cymbal
1498	78 Bongos	Low Perc.
1499	78 Congas	Low Perc.
1500	78 Claves	Low Perc.
1501	55 BD	Bass Drum
1502	55 Claps	Low Perc.
1503	55 CongaHi	Low Perc.
1504	55 CongaLow	Low Perc.
1505	55 Cowbell Hi	Hi Perc.
1506	55 Cowbell Low	Hi Perc.
1507	55 Crash	Cymbal
1508	55 HH Close	HiHat
1509	55 HH Open	HiHat
1510	55 Ride	Cymbal
1511	55 Rim	Snare Drum
1512	55 SD	Snare Drum
1513	55 Timbales Hi	Low Perc.
1514	55 Tom Hi	Tom
1515	55 Tom Mid	Tom
1516	55 Tom Low	Tom
1517	66 BD	Bass Drum
1518	66 SD	Snare Drum
1519	66 HH Close	HiHat
1520	66 HH Open	HiHat
1521	66 Tom	Tom
1522	66 Congas	Low Perc.
1523	66 Cymbal	Cymbal
1524	66 Cowbell	Hi Perc.
1525	88 BD1	Bass Drum
1526	88 BD2	Bass Drum
1527	88 BD Long	Bass Drum
1528	88 SD1	Snare Drum
1529	88 SD2	Snare Drum
1530	88 SD2 GM	Snare Drum
1531	88 SD3	Snare Drum
1532	88 SD3 GM	Snare Drum
1533	88 RIM Shot1	Snare Drum
1534	88 Rim Shot2	Snare Drum
1535	88 Rim Shot2 GM	Snare Drum
1536	88 HH Close1	HiHat
1537	88 HH Close1 acc	HiHat
1538	88 HH Close1 acc GM	HiHat
1539	88 HH Close2	HiHat
1540	88 HH Close2 GM	HiHat
1541	88 HH Open1	HiHat
1542	88 HH Open1 GM	HiHat
1543	88 HH Open2	HiHat
1544	88 Tom1	Tom
1545	88 Tom2	Tom
1546	88 Cymbal	Cymbal
1547	88 Cymbal Acc1	Cymbal
1548	88 Cymbal Acc2	Cymbal
1549	88 Crash	Cymbal
1550	88 Crash GM	Cymbal
1551	88 Bongos	Low Perc.
1552	88 Congas1	Low Perc.
1553	88 Congas2	Low Perc.
1554	88 Claps1	Low Perc.
1555	88 Claps2	Low Perc.
1556	88 Claves	Low Perc.
1557	88 Cowbell	Hi Perc.
1558	88 Maracas	Hi Perc.
1559	99 BD1	Bass Drum
1560	99 BD2	Bass Drum
1561	99 BD3	Bass Drum
1562	99 SD1	Snare Drum
1563	99 SD2	Snare Drum
1564	99 SD3	Snare Drum
1565	99 RIM Shot	Snare Drum
1566	99 HH Close1	HiHat
1567	99 HH Close2	HiHat
1568	99 HH Close3	HiHat
1569	99 HH Open1	HiHat
1570	99 HH Open2	HiHat
1571	99 HH Open3	HiHat
1572	99 Tom Hi	Tom
1573	99 Tom Mid	Tom
1574	99 Tom Low	Tom
1575	99 Claps	Low Perc.
1576	99 Guiro1	Low Perc.
1577	99 Guiro2	Low Perc.

#	Name	Family
1578	99 Ride	Cymbal
1579	99 Ride Dance	Cymbal
1580	99 Crash1	Cymbal
1581	99 Crash2	Cymbal
1582	99 Crash3	Cymbal
1583	99 Cabasa	Hi Perc.
1584	99 Bongo Hi	Low Perc.
1585	99 Bongo Low	Low Perc.
1586	99 Agogo Hi	Hi Perc.

#	Name	Family
1587	99 Agogo Low	Hi Perc.
1588	99 Conga Hi	Low Perc.
1589	99 Conga Mid	Low Perc.
1590	99 Conga Low	Low Perc.
1591	99 WoodBlock	Low Perc.
1592	99 Timbale Hi	Low Perc.
1593	99 Timbale Mid	Low Perc.
1594	99 Metal	Hi Perc.
1595	Click	SFX

#	Name	Family
1596	Click GM	SFX
1597	Seq Click	SFX
1598	Empty	Bass Drum

Pads

You can assign the following Hits or Sequences to the four Pads. Older sounds might be still assigned to the Pads when loading musical resources generated with an older operating system (see the following section).

#	HIT - Drum	#	HIT - Percussion	#	HIT - World 1	#	Hit - World 2	#	HIT - Orchestral
1	88 Cowbell	1	Agogo 1	1	Baja 1	1	Kup 1	1	Brass Fall
2	88 Crash	2	Agogo 2	2	Baja 2	2	Kup 2	2	Orch.Cymbal 1
3	China	3	Castanet 1	3	China Gong	3	Kup 3	3	Orch.Cymbal 2
4	Crash 1	4	Castanet 2	4	Darbuka 1	4	Kup 4	4	Orch. Hit
5	Crash 2	5	Conga Hi	5	Darbuka 2	5	Ramazan 1	5	Orch. Snare
6	Rev. Cymbal	6	Conga Low	6	Darbuka 3	6	Ramazan 2	6	Orch. Sn. Roll
7	Ride 1	7	Conga Mute	7	Darbuka 4	7	Ramazan 3	7	Timpani 1
8	Ride 2	8	Conga Slap	8	Darbuka 5	8	Rek Dom Ak	8	Timpani 2
9	Ride Bell	9	Cowbell	9	Darbuka 6	9	Rik 1	9	Timpani 3
10	Splash	10	Cuica 1	10	Darbuka 7	10	Rik 2	10	Timpani 4
11	Sticks	11	Cuica 2	11	Darbuka 8	11	Rik 3	11	Orchestra Tutti
12	Rim-Shot	12	Jingle Bell	12	Davul	12	Sagat 1	12	
13	Hi Tom Flam	13	Long Guiro	13	Douf Rim Ak	13	Sagat 2	13	
14	Mid Tom Flam	14	Short Guiro	14	Dragon Gong	14	Tef 1	14	
15	Low Tom Flam	15	Open Bells	15	Hollo 1	15	Tef 2	15	
16	Tom Flam End	16	Rain Stick	16	Hollo 2	16	Tef 3	16	
17	Drum Single A	17	Tamb. Acc. 1	17		17	Tef 4	17	
18	Drum Single B	18	Tamb. Acc. 2	18		18	Tef 5	18	
19	Drum Single C	19	Tamb. Open	19		19	Tef 6	19	
20	Drum Single D	20	Tamb. Push	20		20		20	
21	Drum Sing.HouseA	21	Timbale Hi	21		21		21	
22	Drum Sing.HouseB	22	Timbale Low	22		22		22	
23	Drum Sing.HouseC	23	Timbale Rim 1	23		23		23	
24	Drum Sing.HouseD	24	Timbale Rim 2	24		24		24	
25	Drum Kit A	25	Triangle 1	25		25		25	
26	Drum Kit B	26	Triangle 2	26		26		26	
27	Drum Kit C	27	Vibra Slap	27		27		27	
28	Drum Kit D	28	Whistle 1	28		28		28	
29	Drum Kit E	29	Whistle 2	29		29		29	
30	Drum Kit F	30	Windchimes 1	30		30		30	
31		31	Windchimes 2	31		31		31	
32		32	Windchimes 3	32		32		32	

#	HIT - Synth&Pad		HIT - Voice	#	HIT - Blocks	#	HIT - Misc&SFX 1	#	HIT - Misc&SFX 2
1	Cosmic	1	Aah !	1	Blk Funk 1 A	1	Applause	1	Bubble
2	VCF Modulation	2	Hit it !	2	Blk Funk 1 B	2	Bird 1	2	Car Crash
3	Planet Lead	3	Laughing	3	Blk Funk 1 C	3	Bird 2	3	Car Engine
4	Brightness	4	Scream	4	Blk Funk 1 D	4	Cat	4	Car Pass
5	Crystal	5	Uuh !	5	Blk Funk 2 A	5	Church Bell	5	Car Stop
6	New Age Pad	6	Yeah ! 1	6	Blk Funk 2 B	6	Crickets	6	Explosion
7	Fifths Lead	7	Yeah ! 2	7	Blk Funk 2 C	7	Dist. Slide 1	7	Gun Shot
8	Calliope	8		8	Blk Funk 2 D	8	Dist. Slide 2	8	Helicopter
9	Caribbean	9		9	Blk Organ A	9	Dog	9	Jet Plane
10	Rezbo	10		10	Blk Organ B	10	Door Creak	10	Laser Gun
11	Digital Polisix	11		11	Blk Organ C	11	Door Slam	11	Machine Gun
12	Motion Raver	12		12	Blk Organ D	12	Foosteps 1	12	Phone Ring
13	Moving Bell	13		13	Blk Choir A	13	Foosteps 2	13	Punch
14	Elastick Pad	14		14	Blk Choir B	14	Heart Beat	14	River
15	Rave	15		15	Blk Choir C	15	Horse Gallop	15	Seashore
16	Dance Remix	16		16	Blk Choir D	16	Lion	16	Siren
17	Vintage Sweep	17		17		17	Scratch 1	17	Starship
18	You Decide	18		18		18	Scratch 2	18	Thunder
19		19		19		19	Scratch 3	19	Train
20		20		20		20	Scratch 4	20	Wind
21		21		21		21	Scratch 5	21	
22		22		22		22	Scratch 6	22	
23		23		23		23	Stadium	23	
24		24		24		24		24	
25		25		25		25		25	
26		26		26		26		26	
27		27		27		27		27	
28		28		28		28		28	
29		29		29		29		29	
30		30		30		30		30	
31		31		31		31		31	
32		32		32		32		32	
#	SEQ - Drum	#	SEQ - Percussion	#	SEQ - Groove	#	SEQ - Bass	#	SEQ - Piano
1	Drum DrumBasSolo	1	Perc FingerSnap	1	Grv Drum 1	1	Bass Pick Easy	1	Piano Accomp 1
2	Drum Snare Solo	2	Perc Triang.+HH	2	Grv Drum 2	2	Bass Pick Med.	2	Piano Accomp 2
3	Drum 8 Bt Easy	3	Perc Latin 1	3	Grv Brush	3	Bass Pick Busy	3	Piano Accomp 3
4	Drum 8 Bt Medium	4	Perc Latin 2	4	Grv Jazzy	4	Bass Finger Easy	4	Piano Accomp 4
5	Drum Rock 1	5	Perc Latin 3	5	Grv Latin	5	Bass Finger Med.	5	Piano Accomp 5
6	Drum Rock 2	6	Perc Mix	6	Grv HipHop 1	6	Bass Finger Walk	6	Piano Accomp 6
7	Drum Brush 1 3/4	7	Perc Soft	7	Grv HipHop 2	7	Bass Latin	7	Piano Accomp 7
8	Drum Brush 2 3/4	8	Perc Conga	8	Grv HipHop 3	8	Bass Slap	8	Piano Accomp 8
9	Drum Disco 1	9	Perc Conga+Ride	9	Grv HipHop 4	9	Bass Digital	9	Piano Accomp 9
10	Drum Disco 2	10	Perc Conga+Mix	10	Grv HipHop 5	10	Bass Synth	10	Piano Arpeg. 1
11	Drum Disco 3	11	Perc Conga+Bongo	11	Grv HipHop 6	11	Bass DigiFilter1	11	Piano Arpeg. 2
12	Drum Disco 4	12	Perc Conga+Tamb.	12	Grv Funk 1	12	Bass DigiFilter2	12	Piano Arp 1 3/4
13	Drum Funk 1	13	Perc Shaker	13	Grv Funk 2	13	Bass DigiFilter3	13	Piano Arp 2 3/4
14	Drum Funk 2	14	Perc Shak+Tamb 1	14	Grv Funk 3	14		14	Piano Arp Down
15	Drum Brush Shuff	15	Perc Shak+Tamb 2	15	Grv House 1	15		15	Piano Arp Up
16	Drum Latin	16	Perc Shak+Cong 1	16	Grv House 2	16		16	Piano Rhythm 1/8
17	Drum Progressiv1	17	Perc Shak+Cong 2	17	Grv Analog	17		17	Piano Rhythm1/8T
18	Drum Progressiv2	18	Perc Tambourine1	18	Grv Garage 1	18		18	Piano Latin Rock
19	Drum Fill 1	19	Perc Tambourine2	19	Grv Garage 2	19		19	Piano Salsa 1
20	Drum Fill 2	20	Perc Tamb+Conga1	20	Grv Dance 1	20		20	Piano Salsa 2
21	Drum Break	21	Perc Tamb+Conga2	21	Grv Dance 2	21		21	Pno GlissDwnWhit
22	Drum End	22	Perc Guiro+Bongo	22	Grv Techno 1	22		22	Pno GlissUpWhite
23		23	Perc Cowbel+Tamb	23	Grv Techno 2	23		23	Pno GlissDwnBlak
24		24	Perc 3/4	24		24		24	Pno GlissUpBlack
25		25	Perc 6/8	25		25		25	Honky End
26		26		26		26		26	

27		27		27		27		27	
28		28		28		28		28	
29		29		29		29		29	
30		30		30		30		30	
31		31		31		31		31	
32		32		32		32		32	
#	**SEQ - Guitar**	**#**	**SEQ - Orchestral**	**#**	**SEQ - Solo**	**#**	**SEQ - Synth&Pad**	**#**	**SEQ - Misc&SFX**
1	Gtr Steel Strum1	1	Timpani Roll 1	1	Solo Marimba	1	Synth Seq 1	1	Military 1
2	Gtr Steel Strum2	2	Timpani Roll 2	2	Solo Kalimba 1	2	Synth Seq 2	2	Military 2
3	Gtr Steel Strum3	3	Orch. Tutti 1	3	Solo Kalimba 2	3	Synth Seq 3	3	Military 3
4	Gtr Steel Strum4	4	Orch. Tutti 2	4	Solo Steel Drums	4	Synth Seq 4	4	Military 4
5	Gtr Steel Strum5	5	Orch. Tutti 3	5	Solo Vibes	5	Synth Seq 5	5	Horror 1
6	Gtr Steel Strum6	6	Orch. Tutti 4	6	Solo Gtr Dist.	6	Synth Seq 6	6	Horror 2
7	GtSteelStrum 3/4	7	Orch. Harp 1	7	Solo Slide Steel	7	Synth Seq 7	7	Horror 3
8	Gtr Steel Arp 1	8	Orch. Harp 2	8	Solo Banjo	8	Synth Seq 8	8	Horror 4
9	Gtr Steel Arp 2	9	Orch. Harp 3	9	Solo Violin	9	Synth Seq 9	9	Lullaby 1
10	Gtr Steel Arp 3	10	Orch. Harp 4	10	Solo Harpsi 3/4	10	Synth Seq 10	10	Lullaby 2
11	GtrSteel Arp 6/8	11	Orch. Harp 5	11	Solo Harpsi 4/4	11	Synth Seq 11	11	Nature - River
12	Gtr Steel Mute 1	12	French Horns 1	12	Solo Gtr Funk	12	Synth Portam. 1	12	Nature - Storm
13	Gtr Steel Mute 2	13	French Horns 2	13	Solo Piano 1	13	Synth Portam. 2	13	Metronome 3/4
14	Guitar Country	14	Strings 1	14	Solo Piano 2	14	Synth Portam. 3	14	PreCount 3/4
15	Gtr Nylon Strum1	15	Strings 2	15	Solo Piano 3	15	Synth Portam. 4	15	Metronome 4/4
16	Gtr Nylon Strum2	16	Strings 3	16	Solo Piano 4	16	Synth Filter 1	16	PreCount 4/4
17	Gtr Nylon Strum3	17	Strings 4	17	Solo Synth 1	17	Synth Filter 2	17	PreCount 4/4 Dbl
18	Gtr Nylon Strum4	18	Strings 5	18	Solo Synth 2	18	Synth Pad Panned	18	Toccata
19	Gtr Nylon Strum5	19	Strings 6	19	Solo Synth 3	19	Synth Master Pad	19	5th Intro
20	Gtr Nylon Strum6	20	Strings 7	20	Solo Synth 4	20	Synth Dark Pad	20	Primavera
21	Gtr Nylon Arp 1	21		21	Solo Synth 5	21		21	Circus 1
22	Gtr Nylon Arp 2	22		22	Solo Synth 6	22		22	Circus 2
23	Gtr Nylon Arp 3	23		23	Solo Guitar 1	23		23	
24	GtrNylon Arp 3/4	24		24	Solo Guitar 2	24		24	
25		25		25	Solo Guitar 3	25		25	
26		26		26		26		26	
27		27		27		27		27	
28		28		28		28		28	
29		29		29		29		29	
30		30		30		30		30	
31		31		31		31		31	
32		32		32		32		32	

Effects

The following table lists all Pa3X Factory Effects. Detailed information on each effect's parameter are contained in the "Effects" chapter (see page 106).

	#	FX Name			
	0	No Effect	All FX slots	FX A - Master 2 & Insert 1	FX B - Master 2
	1	Stereo Compressor			
	2	Dyn. Compressor			
	3	Stereo Limiter			
	4	Multiband Limiter			
	5	St.MasteringLimtr			
	6	Stereo Gate			
	7	St.Parametric4EQ			
	8	St. Graphic 7EQ			
	9	St.Exciter/Enhncr			
	10	Stereo Isolator			
	11	St. Wah/Auto Wah			
	12	St. Vintage Wah			
	13	VOX Wah			
	14	St. Random Filter			
	15	St. MultiModeFilter			
	16	St. Sub Oscillator			
	17	Talking Modulator			
	8	Stereo Decimator			
	19	St. Analog Record			
	20	OD/Hi.Gain Wah			
	21	St. Guitar Cabinet			
	22	Gtr. Cabinet + NR			
	23	St. Bass Cabinet			
	24	Bass Amp Model			
	25	Bass Amp+Cabinet			
	26	Tube PreAmp Model			
	27	St. Tube PreAmp			
	28	MicModel+PreAmp			
	29	Stereo Chorus			
	30	Classic Chorus			
	31	Black Chorus/Flanger			
	32	St.HarmonicChorus			
	33	St. Biphase Mod.			
	34	Multitap Cho/Delay			
	35	Ensemble			
	36	Polysix Ensemble			
	37	Stereo Flanger			
	38	Classic Flanger			
	39	St. Random Flanger			
	40	St. Env. Flanger			
	41	Stereo Phaser			
	42	Orange Phaser			
	43	Small Phaser			
	44	St. Random Phaser			
	45	St. Env. Phaser			

	#	FX Name			
	46	Stereo Vibrato	All FX slots	FX A - Master 2 & Insert 1	FX B - Master 2
	47	St. Auto Fade Mod.			
	48	2Voice Resonator			
	49	Doppler			
	50	Scratch			
	51	Grain Shifter			
	52	Stereo Tremolo			
	53	Classic Tremolo			
	54	St. Env. Tremolo			
	55	Stereo Auto Pan			
	56	St. Phaser + Trml			
	57	St. Ring Modulator			
	58	Detune			
	59	Pitch Shifter			
	60	Pitch Shifter BPM			
	61	Pitch Shift Mod.			
	62	Organ Vib/Chorus			
	63	Rotary Speaker			
	64	L/C/R Delay			
	65	Stereo/CrossDelay			
	66	St. Multitap Delay			
	67	St. Mod Delay			
	68	St. Dynamic Delay			
	69	St. AutoPanningDly			
	70	Tape Echo			
	71	Classic Tape Echo			
	72	Auto Reverse			
	73	Sequence BPM Dly			
	74	L/C/R BPM Delay			
	75	Stereo BPM Delay			
	76	St.BPM Mtap Delay			
	77	St.BPM Mod. Delay			
	78	St.BPMAutoPanDly			
	79	Tape Echo BPM			
	80	Reverb Hall			
	81	Reverb SmoothHall			
	82	Reverb Wet Plate			
	83	Reverb Dry Plate			
	84	Reverb Room			
	85	ReverbBrightRoom			
	86	Reverb Spring			
	87	Early Reflections			
	88	P4EQ - Exciter			
	89	P4EQ - Wah			
	90	P4EQ - Cho/Flng			
	91	P4EQ - Phaser			
	92	P4EQ - Mt. Delay			
	93	Comp - Wah			
	94	Comp - Amp Sim			

	#	FX Name			
	95	Comp - OD/HiGain	All FX slots	FX A - Master 2 & Insert 1	FX B - Master 2
	96	Comp - P4EQ			
	97	Comp - Cho/Flng			
	98	Comp - Phaser			
	99	Comp - Mt. Delay			
	100	Limiter - P4EQ			
	101	Limiter-Cho/Flng			
	102	Limiter - Phaser			
	103	Limiter - Mt.Delay			
	104	Exciter - Comp			
	105	Exciter - Limiter			
	106	Exciter-Cho/Flng			
	107	Exciter - Phaser			
	108	Exciter - Mt.Delay			
	109	OD/HG - Amp Sim			
	110	OD/HG - Cho/Flng			
	111	OD/HG - Phaser			
	112	OD/HG - Mt.Delay			
	113	Wah - Amp Sim			
	114	Decimator - Amp			
	115	Decimator - Comp			
	116	AmpSim - Tremolo			
	117	Cho/Flng - Mt.Dly			
	118	Phaser - Cho/Flng			
	119	Reverb - Gate			

	#	FX Name		
Double size FX	120	St.Mltband Limiter	FX A - Master 2 & Insert 1	FX B - Master 2
	121	PianoBody/Damper		
	122	OD/HyperGain Wah		
	123	GuitarAmp + P4EQ		
	124	Amp Clean Combo		
	125	Amp California		
	126	Amp Tweed		
	127	Amp Modded OD		
	128	BassTubeAmp+Cab.		
	129	St. Mic + PreAmp		
	130	Multitap Cho/Delay		
	131	St. Pitch Shifter		
	132	St. PitchShift BPM		
	133	Rotary SpeakerOD		
	134	L/C/R Long Delay		
	135	St/Cross Long Dly		
	136	Hold Delay		
	137	LCR BPM Long Dly		
	138	St. BPM Long Dly		
	139	Early Reflections		
	140	Vocoder		

MIDI Setup

		Default	Master Kbd	Player1	Player 2	Accordion 1	Accordion 2	Accordion 3	Ext. Seq
MIDI IN Channel	1	P1_Tr 1	Global	P1_Tr 1	P2_Tr 1	Global	Upp1	Upp1	P1_Tr 1
	2	P1_Tr 2	Control	P1_Tr 2	P2_Tr 2	Lower	Lower	Lower	P1_Tr 2
	3	P1_Tr 3	-	P1_Tr 3	P2_Tr 3	Bass	-	Bass	P1_Tr 3
	4	P1_Tr 4	-	P1_Tr 4	P2_Tr 4	-	Upp2	Upp2	P1_Tr 4
	5	P1_Tr 5	-	P1_Tr 5	P2_Tr 5	-	Upp3	Upp3	P1_Tr 5
	6	P1_Tr 6	-	P1_Tr 6	P2_Tr 6	-	-	-	P1_Tr 6
	7	P1_Tr 7	-	P1_Tr 7	P2_Tr 7	-	-	-	P1_Tr 7
	8	P1_Tr 8	-	P1_Tr 8	P2_Tr 8	-	-	-	P1_Tr 8
	9	P1_Tr 9	-	P1_Tr 9	P2_Tr 9	-	Bass	-	P1_Tr 9
	10	P1_Tr 10	-	P1_Tr 10	P2_Tr 10	Drum	Drum	Drum	P1_Tr 10
	11	P1_Tr 11	-	P1_Tr 11	P2_Tr 11	Perc	Perc	Perc	P1_Tr 11
	12	P1_Tr 12	-	P1_Tr 12	P2_Tr 12	Acc1	Acc1	Acc1	P1_Tr 12
	13	P1_Tr 13	-	P1_Tr 13	P2_Tr 13	Acc2	Acc2	Acc2	P1_Tr 13
	14	P1_Tr 14	-	P1_Tr 14	P2_Tr 14	Acc3	Acc3	Acc3	P1_Tr 14
	15	P1_Tr 15	-	P1_Tr 15	P2_Tr 15	Acc4	Acc4	Acc4	P1_Tr 15
	16	P1_Tr 16	-	P1_Tr 16	P2_Tr 16	Acc5	Acc5	Acc5	P1_Tr 16
MIDI OUT Channel	1	1 Upp1	Upp1	P1_Tr 1	P2_Tr 1	Upp1	P1_Tr 1	P2_Tr 1	Upp. 1
	2	Upp2	Upp2	P1_Tr 2	P2_Tr 2	Upp2	P1_Tr 2	P2_Tr 2	-
	3	Upp3	Upp3	P1_Tr 3	P2_Tr 3	Upp3	P1_Tr 3	P2_Tr 3	-
	4	Lower	Lower	P1_Tr 4	P2_Tr 4	Lower	P1_Tr 4	P2_Tr 4	-
	5	-	-	P1_Tr 5	P2_Tr 5	-	P1_Tr 5	P2_Tr 5	-
	6	-	-	P1_Tr 6	P2_Tr 6	-	P1_Tr 6	P2_Tr 6	-
	7	-	-	P1_Tr 7	P2_Tr 7	-	P1_Tr 7	P2_Tr 7	-
	8	-	-	P1_Tr 8	P2_Tr 8	-	P1_Tr 8	P2_Tr 8	-
	9	-	-	P1_Tr 9	P2_Tr 9	Bass	P1_Tr 9	P2_Tr 9	-
	10	-	-	P1_Tr 10	P2_Tr 10	Drum	P1_Tr 10	P2_Tr 10	-
	11	-	-	P1_Tr 11	P2_Tr 11	Perc	P1_Tr 11	P2_Tr 11	-
	12	-	-	P1_Tr 12	P2_Tr 12	Acc1	P1_Tr 12	P2_Tr 12	-
	13	-	-	P1_Tr 13	P2_Tr 13	Acc2	P1_Tr 13	P2_Tr 13	-
	14	-	-	P1_Tr 14	P2_Tr 14	Acc3	P1_Tr 14	P2_Tr 14	-
	15	-	-	P1_Tr 15	P2_Tr 15	Acc4	P1_Tr 15	P2_Tr 15	-
	16	-	-	P1_Tr 16	P2_Tr 16	Acc5	P1_Tr 16	P2_Tr 16	-
Chord 1 Chann.		Off	1	Off	Off	2	2	2	Off
Chord 2 Chann.		Off	Off	Off	Off	3	3	Off	Off
Harm. Chann.		5	5	5	5	2	2	2	Off
Harm. Octave		0	0	0	0	-1	-1	-1	1
Harm. Range HI		G9	G9	G9	G9	G9	G9	G9	G9
Harm. Range LO		C -1	C -1	C -1	C -1	C -1	C -1	C -1	C -1
MIDI IN Velocity		Normal	Normal	Normal	Normal	110	110	Normal	Normal
MIDI IN Oct. Trp.		On	On	On	On	On	On	On	On
MIDI IN Mute/Un.		On	On	–	–	–	–	–	On
Upper Oct. Trp.		0	0	0	0	0	0	0	0
Lower Oct. Trp.		0	0	0	0	0	0	0	0

Assignable parameters

List of Assignable Footswitch / Pedal functions

The following functions can be assigned to a footswitch or a continuous pedal.

Function	Meaning
Off	No function assigned
Style Start/Stop	Same functions of the control panel buttons with the same name
Play Stop Player 1	
Play Stop Player 2	
Go to Beginning-Ply 1	
Go to Beginning-Ply 2	
Chord Seq. Record	
Chord Seq. Play	
Synchro Start	
Synchro Stop	
Tap Tempo/Reset	
Tempo Lock	
Ritardando	Progressively decreases the Tempo value
Accelerando	Progressively increases the Tempo value
Tempo Up	Increases the Tempo value
Tempo Down	Decreases the Tempo value
Intro 1	Same functions of the control panel buttons with the same name
Intro 2	
Intro 3 / Count In	
Ending 1	
Ending 2	
Ending 3	
Fill 1	
Fill 2	
Fill 3	
Fill 4	
Break	
Variation 1	
Variation 2	
Variation 3	
Variation 4	
Variation Up	Selects the next Variation
Variation Down	Selects the previous Variation
Fade In/Out	Same functions of the control panel buttons with the same name
Memory	
Bass Inversion	
Manual Bass	
Style Up	Selects the next Style
Style Down	Selects the previous Style

Function	Meaning
STS Mode	Same functions of the control panel buttons with the same name
STS1	
STS2	
STS3	
STS4	
STS Up	Selects the next STS
STS Down	Selects the previous STS
Perform. Up	Selects the next Performance
Perform. Down	Selects the previous Performance
Style Change	Style number
Sound Up	Selects the next Sound
Sound Down	Selects the previous Sound
Transpose Down	Same functions of the control panel buttons with the same name
Transpose Up	
Upper Octave Up	
Upper Octave Down	
Punch In/Out	Turns Punch Recording on/off
Style-Upper1 Mute	
Style-Upper2 Mute	
Style-Upper3 Mute	
Style-Lower Mute	
Style-Drum Mute	
Style-Percussion Mute	
Style-Bass Mute	
Style-Acc1 Mute	
Style-Acc2 Mute	
Style-Acc3 Mute	
Style-Acc4 Mute	
Style-Acc5 Mute	
Style-Acc1-5 Mute	
Song-Melody	Mute of the Standard MIDI File's track selected as the Melody track (Song Play > Preferences).
Vocal Remover On/Off	Voice removal from the MP3 file (the type of voice to be removed can be chosen in Song Play > Preferences).
Song-Drum&Bass Mode	Mute of all tracks, apart for track 2 (usually Bass) and 10 (usually Drum). *It doesn't work on MP3 files.*
Solo Selected Track	
Damper Pedal	
Soft Pedal	
Sostenuto Pedal	
Bass&Lower Backing	When the Style is not playing and you are in Split mode, you can play the Lower track with your left hand, while the Bass still plays the chord root. See "Bass & Lower Backing" on page 137 of the User's Manual.
Ensemble On/Off	
QuarterTone	Turns Quarter Tone on/off
Global-Scale	When the switch or footswitch is pressed, the Global > General Controls > Scale is recalled in the display.

Function	Meaning
SubScale Preset 1 (SC1)…4 (SC4)	Same functions of the SC Preset buttons in the display.
Chord Latch	Holds the recognized chord until the pedal is released
Chord Latch + Damper	Holds the recognized chord until the pedal is released, and sustains the tracks where the Damper has been turned on
Glide	When the pedal is pressed, affected notes on Upper tracks are bent down, according to settings for the Pitch Bend on the same tracks. When the pedal is released, notes return to the normal pitch, at the speed defined by the "Time" parameter (see "Glide" on page 201 of the User's Manual).
Audio In Mute	
Microphone Talk	Turns all Voice Processor effects down, to let you address the audience. See "Voice Processor Setup: Talk" on page 99.
Mic Lead On/Off	On/off switch controls assigned to the Voice Processor. Press to activate, press a second time to deactivate.
Mic Harmony On/Off	
Mic Double On/Off	
Mic Filter On/Off	
Mic HardTune On/Off	
Mic uMod On/Off	
Mic Delay On/Off	
Mic Reverb On/Off	
FX CC12 Switch	Standard FX controllers
FX CC13 Switch	
Rotary Spkr On/Off	
Rotary Spkr Fast/Slow	
Drawbar Perc On/Off	
Text Page Down	These options let you move to the previous or next page, when reading a text file loaded with a Song or Song Book entry (see "Text files loaded with Standard MIDI Files and MP3 files" on page 170 of the User's Manual).
Text Page Up	
SongBook Next	Moves to the next SongBook entry in the selected Custom List.
Pad 1	Same functions of the control panel buttons with the same name
Pad 2	
Pad 3	
Pad 4	
Pad Stop	
Sound Controller 1	To be used as triggers for two DNC parameter (transmit CC#80 or CC#81). When these functions are assigned to the selected physical controller, this latter becomes the corresponding Sound Controller (Sound Controller 1 or Sound Controller 2). You can then use this Sound Controller to control any of the DNC parameters.
Sound Controller 2	
Master Volume	
Accompaniment Volume	
Keyboard Expression	
Pad Volume	With this function assigned, you can control the proportional volume of all four Pads at the same time. Please note that the status of the Pad's volume, after having been modified with a pedal or slider, is made current, and will be saved in a Performance or STS by using the relevant Write procedure.
Joystick +X	Joystick right

Function	Meaning
Joystick -X	Joystick left
Joystick +Y	Joystick forward
Joystick -Y	Joystick backward
Upper VDF Cutoff	Filter cutoff (for Sounds assigned to the Upper tracks)
Upper VDF Resonance	Filter resonance (for Sounds assigned to the Upper tracks)
Mic In Level	
Mic Lead Voice Level	Continuous controls assigned to the Voice Processor.
Mic Harmony/Double Level	
Mic Harmony Level	
Mic Double Level	
Mic Filter Level	
Mic uMod	
Mic Delay/Reverb Level	
Mic Delay Level	
Mic Reverb Level	
Mic EQ Gain Low	
Mic EQ Gain Mid	
Mic EQ Gain High	
FX CC12 Ctl	Standard FX controllers
FX CC13 Ctl	

List of Assignable Slider functions

The following functions can be assigned to the Assignable Sliders.

Function	Meaning
Off	No function assigned
Master Volume	
Keyboard Expression	
Pad Volume	
Joystick +X	
Joystick -X	
Joystick +Y	
Joystick -Y	
Upper VDF Cutoff	
Upper VDF Resonance	
Mic Lead Voice Level	Continuous controls assigned to the Voice Processor
Mic Harmony Level	
Mic Double Level	
Mic Filter Level	
Mic uMod Level	
Mic Delay Level	
Mic Reverb Level	
Mic EQ Gain Low	
Mic EQ Gain Mid	
Mic EQ Gain High	
FX CC12 Ctl	
FX CC13 Ctl	

List of Assignable Switch functions

The following functions can be assigned to the Assignable Switches.

Function	Meaning
Off	No function assigned
Ritardando	Progressively decreases the Tempo value
Accelerando	Progressively increases the Tempo value
Style Up	Selects the next Style
Style Down	Selects the previous Style
Perform. Up	Selects the next Performance
Perform. Down	Selects the previous Performance
Sound Up	Selects the next Sound
Sound Down	Selects the previous Sound
Style-Drum Mute	
Style-Percussion Mute	
Style-Bass Mute	
Style-Acc1 Mute	
Style-Acc2 Mute	
Style-Acc3 Mute	
Style-Acc4 Mute	
Style-Acc5 Mute	
Style-Acc1-5 Mute	
Song-Melody Mute	Mute of Song track 4 (usually, the Melody track) in a Standard MIDI File
Vocal Remover On/Off	Removal of the Lead Vocals from a Song in MP3 format
Song-Drum&Bass Mode	Mute of all tracks, apart for track 2 (usually Bass) and 10 (usually Drum)
Solo Selected Track	
Bass&Lower Backing	When the Style is not playing and you are in Split mode, you can play the Lower track with your left hand, while the Bass still plays the chord root. See “Bass & Lower Backing” on page 137 of the User’s Manual.
QuarterTone	Turns Quarter Tone on/off
Global-Scale	When the switch or footswitch is pressed, the Global > General Controls > Scale is recalled in the display.
SubScale Preset 1 (SC1)…4 (SC4)	Same functions of the SC Preset buttons in the display.
Microphone Talk	Turns all Voice Processor effects down, to let you address the audience. See “Voice Processor Setup: Talk” on page 99.
Mic Lead On/Off	On/Off switch controls assigned to the Voice Processor. Press to activate, press a second time to deactivate.
Mic Filter On/Off	
Mic HardTune On/Off	
Mic uMod On/Off	
Mic Delay On/Off	
FX CC12 Switch	Standard FX controllers
FX CC13 Switch	
Rotary Spkr On/Off	
Rotary Spkr Fast/Slow	
Drawbar Perc On/Off	

Function	Meaning
Text Page Down	These options let you move to the previous or next page, when reading a text file loaded with a Song or Song Book entry (see "Text files loaded with Standard MIDI Files and MP3 files" on page 170 of the User's Manual).
Text Page Up	
SongBook Next	Moves to the next SongBook entry in the selected Custom List.
Sound Controller 1	To be used as triggers for two DNC parameter (transmit CC#80 or CC#81). When these functions are assigned to the selected physical controller, this latter becomes the corresponding Sound Controller (Sound Controller 1 or Sound Controller 2). You can then use this Sound Controller to control any of the DNC parameters.
Sound Controller 2	

List of EC5 functions

The following functions can be assigned to a Korg EC5's switch pedal.

Function	Meaning
Off	No function assigned
Style Start/Stop	Same functions of the control panel buttons with the same name
Play Stop Player 1	
Play Stop Player 2	
Go to Beginning-Ply 1	
Go to Beginning-Ply 2	
Chord Seq. Record	
Chord Seq. Play	
Synchro Start	
Synchro Stop	
Tap Tempo/Reset	
Tempo Lock	
Ritardando	Progressively decreases the Tempo value
Accelerando	Progressively increases the Tempo value
Tempo Up	Increases the Tempo value
Tempo Down	Decreases the Tempo value
Intro 1	Same functions of the control panel buttons with the same name
Intro 2	
Intro 3 / Count In	
Ending 1	
Ending 2	
Ending 3	
Fill 1	
Fill 2	
Fill 3	
Fill 4	
Break	
Variation 1	
Variation 2	
Variation 3	
Variation 4	
Variation Up	Selects the next Variation
Variation Down	Selects the previous Variation
Fade In/Out	Same functions of the control panel buttons with the same name
Memory	
Bass Inversion	
Manual Bass	
Style Up	Selects the next Style
Style Down	Selects the previous Style
STS Mode	Same functions of the control panel buttons with the same name
STS1	
STS2	
STS3	
STS4	
STS Up	Selects the next STS
STS Down	Selects the previous STS
Perform. Up	Selects the next Performance

Function	Meaning
Perform. Down	Selects the previous Performance
Style Change	Style number
Sound Up	Selects the next Sound
Sound Down	Selects the previous Sound
Transpose Down	Same functions of the control panel buttons with the same name
Transpose Up	
Upper Octave Up	
Upper Octave Down	
Punch In/Out	Turns Punch Recording on/off
Style-Upper1 Mute	
Style-Upper2 Mute	
Style-Upper3 Mute	
Style-Lower Mute	
Style-Drum Mute	
Style-Percussion Mute	
Style-Bass Mute	
Style-Acc1 Mute	
Style-Acc2 Mute	
Style-Acc3 Mute	
Style-Acc4 Mute	
Style-Acc5 Mute	
Style-Acc1-5 Mute	
Song-Melody	Mute of the Standard MIDI File's track selected as the Melody track (Song Play > Preferences).
Vocal Remover On/Off	Voice removal from the MP3 file (the type of voice to be removed can be chosen in Song Play > Preferences).
Song-Drum&Bass Mode	Mute of all tracks, apart for track 2 (usually Bass) and 10 (usually Drum). *It doesn't work on MP3 files.*
Solo Selected Track	
Damper Pedal	
Soft Pedal	
Sostenuto Pedal	
Bass&Lower Backing	When the Style is not playing and you are in Split mode, you can play the Lower track with your left hand, while the Bass still plays the chord root. See "Bass & Lower Backing" on page 137 of the User's Manual.
Ensemble On/Off	
QuarterTone	Turns Quarter Tone on/off
Global-Scale	When the switch or footswitch is pressed, the Global > General Controls > Scale is recalled in the display.
SubScale Preset 1 (SC1)…4 (SC4)	Same functions of the SC Preset buttons in the display.
Chord Latch	Holds the recognized chord until the pedal is released
Chord Latch + Damper	Holds the recognized chord until the pedal is released, and sustains the tracks where the Damper has been turned on
Glide	When the pedal is pressed, affected notes on Upper tracks are bent down, according to settings for the Pitch Bend on the same tracks. When the pedal is released, notes return to the normal pitch, at the speed defined by the "Time" parameter (see "Glide" on page 201 of the User's Manual).
Audio In Mute	

Function	Meaning
Microphone Talk	Turns all Voice Processor effects down, to let you address the audience. See "Voice Processor Setup: Talk" on page 99.
Mic Lead On/Off	On/off switch controls assigned to the Voice Processor. Press to activate, press a second time to deactivate.
Mic Harmony On/Off	
Mic Double On/Off	
Mic Filter On/Off	
Mic HardTune On/Off	
Mic uMod On/Off	
Mic Delay On/Off	
Mic Reverb On/Off	
FX CC12 Switch	Standard FX controllers
FX CC13 Switch	
Rotary Spkr On/Off	
Rotary Spkr Fast/Slow	
Drawbar Perc On/Off	
Text Page Down	These options let you move to the previous or next page, when reading a text file loaded with a Song or Song Book entry (see "Text files loaded with Standard MIDI Files and MP3 files" on page 170 of the User's Manual).
Text Page Up	
SongBook Next	Moves to the next SongBook entry in the selected Custom List.
Pad 1	Same functions of the control panel buttons with the same name
Pad 2	
Pad 3	
Pad 4	
Pad Stop	
Sound Controller 1	To be used as triggers for two DNC parameter (transmit CC#80 or CC#81). When these functions are assigned to the selected physical controller, this latter becomes the corresponding Sound Controller (Sound Controller 1 or Sound Controller 2). You can then use this Sound Controller to control any of the DNC parameters.
Sound Controller 2	

Scales

The following is a list of scales (or tunings) you can select in various operating modes.

Equal	Equal tuning, the standard scale for modern Western music. It is made of 12 identical semitones.
Pure Major	Major chords in the selected key are perfectly tuned.
Pure Minor	Minor chords in the selected key are perfected tuned.
Arabic	An arabic scale, using quarters of tone. Set the Key parameter as follow: C - for the "rast C/bayati D" scale D - for the "rast D/bayati E" scale F - for the "rast F/bayati G" scale G - for the "rast G/bayati A" scale A# - for the "rast Bb/bayati C" scale
Pythagorean	Pythagorean scale, based on the music theories of the great Greek philosopher and matematician. It is most suitable for melodies.
Werckmeister	Late Baroque/Classic Age scale. Very suitable for XVIII Century music.
Kirnberger	Harpsichord scale, very common during the XVIII Century.
Slendro	Scale of the Indonesian Gamelan. The octave is divided in 5 notes (C, D, F, G, A). The remaining notes are tuned as in the Equal tuning.
Pelog	Scale of the Indonesian Gamelan. The octave is divided in 7 notes (all white keys, when Key is = C). The black keys are tuned as in the Equal tuning.
Stretch	Simulates the "stretched" tuning of an acoustic piano. Basically an equal tuning, the lowest notes are slightly lower, while the highest notes are slightly higher than the standard.
User	User scale, i.e. scale programmed by the user for the Style Play, Backing Sequence and Song Play modes. The user scale can be saved to a Performance, Style Settings, STS or Song. You can't select a User scale in Global mode.

MIDI Data

MIDI Controllers

The following is a table including all Control Change messages, and their effect on various Pa3X functions. Note that not all controllers are available in all operative modes.

CC#	CC Name	Pa3X Function
0	Bank Select	Program selection
1	Mod1 (Y+)	Joystick forward
2	Mod2 (Y-)	Joystick backward
3	Undef. ctl	
4	Foot ctl	
5	Port.time	
6	Data ent.	
7	Volume	Track volume
8	Balance	
9	Undef. ctl	
10	Pan Pot	Track panning
11	Expression	Expression
12	Fx Ctl 1	CC#12
13	Fx Ctl 2	CC#13
14-15	Undef. ctlþ	
16	Gen.pc.1	Ribbon Controller
17	Gen.pc.2	
18	Slider	
19	Gen.pc.4	
20-31	Undef. ctlþþ	
Control Change #32-63 are the LSB (Least Significant Bytet) of Control Change #0-31, i.e. the MSB (Most Significant Byte), and are changed according to their MSB counterparts.		
64	Damper	Damper pedal
65	Portamento	
66	Sostenuto	Sostenuto pedal
67	Soft	Soft pedal
68	Legato	
69	Hold 2	
70	Sustain level	
71	F.Res.Hp	Filter resonance
72	Release	Release time
73	Attack	Attack time
74	F.CutOff	Filter cutoff (Brilliance)
75	Decay T.	Decay time
76	Lfo1 Sp.	Vibrato speed
77	Lfo1 Dpt	Vibrato depth
78	Lfo1 Dly	Vibrato initial delay
79	FilterEgþ	
80	Gen.pc.5	Sound Controller 1
81	Gen.pc.6	Sound Controller 2
82	Gen.pc.7	
83	Gen.pc.8	
84	Port.ctl	
85-90	Undef. ctl	
91	Fx A/C	A/C (reverb) send level
92	Fx 2 ctl	
93	Fx B/D	B/D (modul.) send level
94	Fx 4 ctl	
95	Fx 5 ctl	
96	Data Inc	
97	Data Dec	
98	NRPN Lsb	See table below(*)
99	NRPN Msb*	See table below(*)
100	RPN Lsb	See MIDI Implementation Chart
101	RPN Msb	See MIDI Implementation Chart
102-119	Undefined ctl	
120	AllSOff	
121	Res Ctl	Reset All Controllers
122	LocalCt	
123	NoteOff	
124	OmniOff	
125	Omni On	
126	Mono On	
127	Poly On	

(*) The following NRPN messages are recognized by Pa3X in Song Play and Sequencer mode only:

NRPN	CC#99 (MSB)	CC#98 (LSB)	CC#06 (Data Entry)
Vibrato Rate	1	8	0…127(a)
Vibrato Depth	1	9	0…127(a)
Vibrato Decay	1	10	0…127(a)
Filter Cutoff	1	32	0…127(a)
Resonance	1	33	0…127(a)
EG Attack Time	1	99	0…127(a)
EG Decay Time	1	100	0…127(a)
EG Release Time	1	102	0…127(a)
Drum Filter Cutoff	20	dd(b)	0…127(a)
Drum Filter Resonance	21	dd(b)	0…127(a)
Drum EG Attack Time	22	dd(b)	0…127(a)
Drum EG Decay Time	23	dd(b)	0…127(a)
Drum Coarse Tune	24	dd(b)	0…127(a)
Drum Fine Tune	25	dd(b)	0…127(a)
Drum Volume	26	dd(b)	0…127
Drum Panpot	28	dd(b)	0…127(a)
Drum Rev Send (FX 1)	29	dd(b)	0…127(a)
Drum Mod Send (FX 2)	30	dd(b)	0…127(a)

(a). 64 = No change to the original parameter's value
(b). dd = Drum Instrument No. 0…127 (C0…C8)

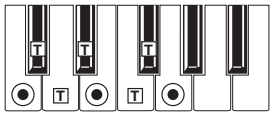
***Note:** These controls are reset when stopping the Song, or choosing a new Song.*

Recognized chords

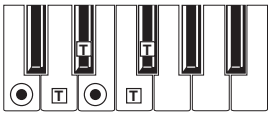
The following pages show the most important chords recognized by the Pa3X, when the selected Chord Recognition mode is Fingered 2 (see "Chord Recognition Mode" on page 135 of the User's Manual). Recognized chords may vary with a different Chord Recognition mode. ***Note:*** *Fingered 2 is selected while in Split keyboard mode; in Full Upper keyboard mode, Fingered 3 or Expert are selected instead.*

Major

3-note

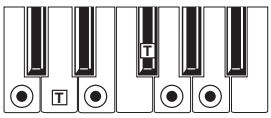


2-note



Major 6th

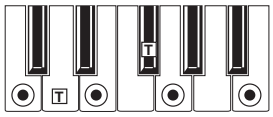
4-note



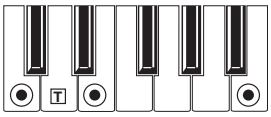
2-note

Major 7th

4-note



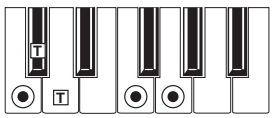
3-note



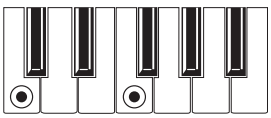
2-note

Sus 4

3-note

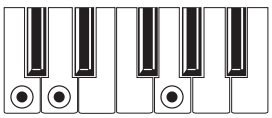


2-note



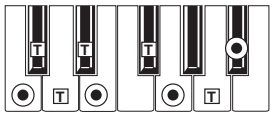
Sus 2

3-note

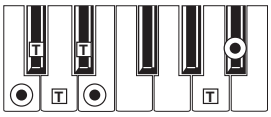


Dominant 7th

4-note



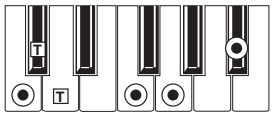
3-note



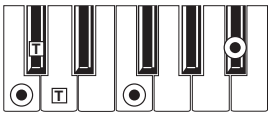
2-note

Dominant 7th Sus 4

4-note

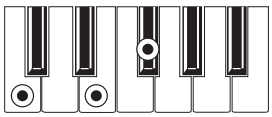


3-note



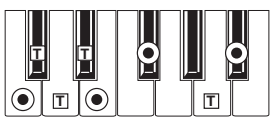
Flat 5th

3-note



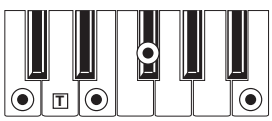
Dominant 7th ♭5

4-note



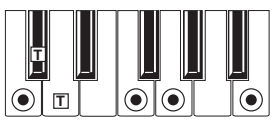
Major 7th ♭5

4-note



Major 7th Sus 4

4-note

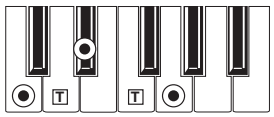


◉ = constituent notes of the chord

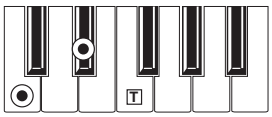
T = can be used as tension

Minor

3-note

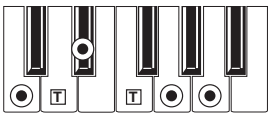


2-note



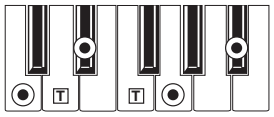
Minor 6th

4-note

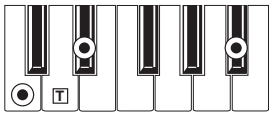


Minor 7th

4-note

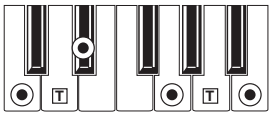


3-note

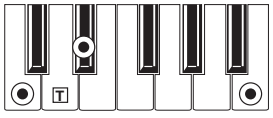


Minor-Major 7th

4-note

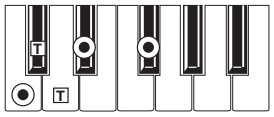


3-note



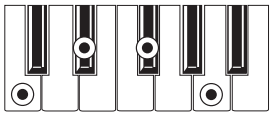
Diminished

3-note



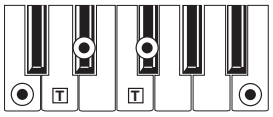
Diminished 7th

4-note



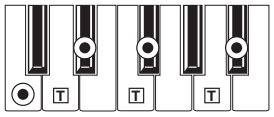
Diminished Major 7th

4-note



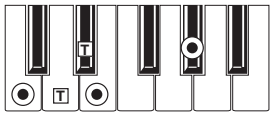
Minor 7th ♭5

4-note



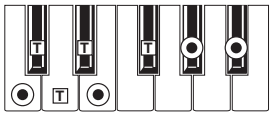
Augmented

3-note



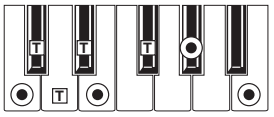
Augmented 7th

4-note



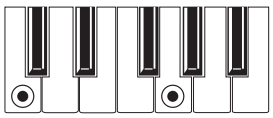
Augmented Major 7th

4-note



No 3rd

2-note



No 3rd, no 5th

1-note

◉ = constituent notes of the chord

T = can be used as tension

KORG

Address
KORG ITALY SpA
Via Cagiata, 85
I-60027 Osimo (An)
Italy

Web
www.korgpa.com
www.korg.co.jp
www.korg.com
www.korg.co.uk